Peace of Mind: Examining Election-Induced Sleeplessness among Minorities in India

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January, 2025

Abstract

Growing societal polarization, fueled by a political discourse that targets religious identities, may have numerous adverse effects on minority well-being, including mental health. In this paper, we examine if the national elections in India differentially affected minorities after the ruling party's landslide victory. Using nationally representative survey data, we find a significant increase in an inability to sleep among minorities, particularly within the Muslim community. The likelihood of experiencing sleeplessness episodes by Muslims and Christians goes up by 4.8 and 1.2 percentage points, respectively, which translates into a 120% increase over the pre-election mean for both groups. Furthermore, Muslims experience a 125% increase in sleeplessness intensity, while Christians exhibit an increase of 263%. These findings reflect a significant deterioration in minorities' mental well-being as a result of religiously charged election rhetorics. Our results also uncover significant heterogeneity, whereby the effect is concentrated in electorally competitive and historically tense districts.

JEL Classifications: H70, I31, J15, O1, P40, Z12

Keywords: India, Elections, Minorities, Religion, Sleeplessness, Mental Health

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Acknowledgements: We thank Salma Mohammad Ali, Garth Heutel, Lauren Hoehn-Velasco, Thomas A. Mroz, David Ribar, Jonathan Smith, Rusty Tchernis, Casey J. Wichman, Olanrewaju Yusuff, and participants of various seminars and conferences for many helpful comments and suggestions. All remaining errors are our own.

1 Introduction

There is mounting evidence that societies across the globe are becoming highly polarized.[1] Accentuated polarization may result from politicians' public speeches and announcements pandering to their electorate for electoral gains. When the society is diverse, this polarization often takes the form of appeal to a particular salient aspect like religion. Existing work shows that when these group characteristics are subconsciously appealed to, there might be significant consequences for the choices that individuals make (Ochsner and Roesel, 2024; Mani et al., 2013). Nonetheless, there are gaps in our knowledge of how non-majority residents are affected when their minority status is highlighted. This paper aims to fill this glaring gap.

Our focus is *Lok Sabha* (House of the People, or the Lower House of Parliament of India) Elections, which are held nationally over multiple phases every five years and determine the composition of the national legislature. In the run-up to the 2019 Lok Sabha elections, there were visible signs of increasing religious tensions in the Indian society (Vaishnav, 2019). On the campaign trail, candidates from the incumbent *Bharatiya Janata Party* (BJP) resorted to using language with clear religious undertones (Sardesai, 2019). While the victory of BJP may have been a foregone conclusion, the extent of victory was not predictable (Slater, 2019). Since 1989 no single party won the majority on its own resulting in BJP's seats won margin having no recent precedence in Indian democracy (Vaishnav and Hintson, 2019). As the BJP won a massive majority, which gave it almost unchecked power to pass various legislation in the parliament, the perceptions of weakening of rights for minority religious residents may have become more acute.[2] According to the latest available population census estimates, minorities constitute 20.2% of India's overall population, with the remaining share following Hinduism. Hence, with a diverse religious composition, the 2019 elections provide a fertile ground to examine the aforementioned hypotheses.

Existing work documents that violence against religious minorities has increased since the BJP came to power in 2014 (Basu, 2021) and that religious minorities feel increasingly insecure given the current political and social trends (Ramachandran, 2020). These feelings may have been heightened in the backdrop of increased activities by vigilante groups who often target religious minorities, thereby increasing the risks to their physical safety (Jaffrelot, 2017). The literature also shows that political parties influence ethnic violence (Nellis et al., 2016).

Given these incidences, we examine how differently the respondents of various religions respond to the massive BJP victory in the elections. It is plausible that religious minorities, who are potentially the primary target of political rhetorics, feel acute insecurity, which might result in the worsening of their mental health.

[1] For a review of the available evidence, see Andreottola and Li (2024), Carothers and O'Donohue (2019), Funke et al. (2023), Iyengar et al. (2019) and Sahoo (2020). Acemoglu et al. (2013) develop a theory of populism highlighting the crucial role of voter and politician characteristics on optimal policies of a politician.

[2] We define a respondent as following a minority religion if they do not report Hinduism as their religion, acknowledging that this definition based on religion is not the only way to categorize an individual as being part of a minority group.

To address the research question, we combine multiple data sources. Our outcome variable comes from the India Time-Use Survey, which provides detailed information on various activities undertaken by approximately half a million respondents who are six years or older within a 24-hour time window. Information on more than 160 distinct activities for each 30-minute interval is collected via interviews for each respondent.

Using these data, we construct measures of sleeplessness both at the intensive and extensive margin through time spent experiencing sleeplessness and experiencing any sleeplessness episodes, respectively. *Sleeplessness*, or *the inability to sleep*, as such, is a good proxy for the mental health status or anxiety as it is caused mainly by stress (Angelucci and Bennett, 2024; Farbmacher et al., 2022; Biasi et al., 2021; Singhal, 2019; Yaniv, 2004). Though this outcome variable of time spent experiencing sleeplessness does not fully capture clinical measures of mental health, the spells of sleeplessness have been documented to be highly correlated with worse mental health in the medical and psychological literature (for more details, see Section 3). Economists have also investigated how it affects a host of health[3] and other outcomes.[4] In terms of economic performance, the lack of adequate sleep has been shown to affect workplace productivity, absenteeism, school performance, and earnings.[5] Therefore, worse sleep quality in and of itself imposes high economic costs on the affected, and we use sleeplessness, anxiety, and mental health worsening interchangeably hereafter.[6]

Our main empirical strategy is based on a regression discontinuity design (RDD) approach. We leverage a sharp discontinuity in the interview date that arises as respondents are interviewed before and after the Lok Sabha election results announcement. The examined context meets the requirements for the validity of the RDD research design: at the cutoff, the running variable does not discontinuously change, and the observable characteristics of the respondents are balanced. Furthermore, the RDD design is valid after performing various empirical checks suggested for

[3]See Heyes and Zhu (2019) and references therein. Rao et al. (2021) discuss the physical and mental consequences of sleeplessness. Mullins and White (2019) and Deschenes et al. (2020) depict that sleep disruption is the mechanism behind the effect of temperature on mental health and the effect of air pollution on body weight, accordingly. Giuntella and Mazzonna (2019) find that social jetlag leads to circadian rhythm disruptions via insufficient sleep. Undertaking a literature review, Cappuccio et al. (2010) suggest that both short- and long-duration of sleep are positively correlated with a greater risk of death. Hillman et al. (2006) find that sleep disorders impose a total financial cost of approximately $4.5 billion in Australia.

[4]Smith (2016) and Gulek (2024) provide evidence for the effect of sleeplessness on road traffic accidents.

[5]Using longitudinal data from Germany, Costa-Font et al. (2024) show that better mental health is a potential mechanism for improved workplace productivity resulting from increased sleep. Employing the Indian Time Use Survey, Jagnani (2024) finds that sleep deprivation leads to a reduction in children's test scores in the short run and lower school completion rates in the long run. Gibson and Shrader (2018) establish a positive causal relationship between sleep and earnings, both in the short- and long-run, using time-use data from the USA. Asgeirsdottir and Olafsson (2015) find that sleep duration and wages have an inverse u-shape relationship using data from the American Time Use Survey. Biddle and Hamermesh (1990) develop a theory of demand for sleep which accounts for labor market productivity effects of sleep. They find that for males, there is a negative relationship between wage and sleep time. Sedigh et al. (2017) confirm the negative relationship between wages and sleep documented by Biddle and Hamermesh (1990) using data from Canada.

[6]When treating sleeping time as the dependent variable, we find that Hindus' sleeping time goes up while it declines considerably for minorities immediately following the election results announcement. Unsurprisingly, we do not find any statistically significant effect on an indicator variable for whether any time is spent on sleeping.

when the running variable is discrete (Cattaneo et al., 2020b), as in our case.

Results demonstrate that while there is a large increase in an inability to sleep for minority religion respondents due to the landslide victory of the incumbent BJP, there is no effect for Hindus. This finding is true for both the likelihood of experiencing any sleeplessness episodes and the intensity of sleeplessness. Point estimates for minorities reflect an increase of 120% (2.4 percentage points) in the likelihood of reporting sleeplessness over the pre-election mean, whereby the effect for respondents following Islam (4.8 percentage points) is significantly larger than for respondents who follow Christianity (1.2 percentage points). Sleeplessness intensity for minorities goes up by 81% over the pre-election mean (0.9 minutes on average) on the day of the election results announcement. In particular, this effect for Muslims and Christians is 125% (2.9 minutes) and 263% (0.3 minutes), respectively.

This is a sizeable increase,[7] both in the extensive margin of reporting sleeplessness beyond the normal sleep latency period and in the intensity of sleeplessness episodes, which suggests a severe worsening of mental health for minority residents in the aftermath of victory for a party that used religiously motivated language in its election campaign. This effect for minorities persists for about 40 days, which may signal the development of sleep disorders (Joseph M Dzierzewski and McCrae, 2010). Relying on the existing literature on the effects of sleep loss on wages (Costa-Font et al., 2024), we estimate that the magnitude of our findings translates into nearly $15 million lost wages per working day.

We also illustrate that the effect is potentially driven by heightened insecurities on account of affiliation with a particular religion – Islam, by leveraging another major national event during our sample period – the *Ayodhya Land Dispute Verdict* by the Indian Supreme Court, a dispute with religious tensions between Hindus and Muslims that led to the demolition of the Babri Mosque and profoundly tragic deadly riots. Since this major event had a clear Hindu-Muslim connotation, we should expect the heightened sleeplessness to be concentrated on Muslims only (and not among other minorities). This is precisely what we find. In light of this evidence, we emphasize that religious affiliation can significantly affect the mental health of respondents of a particular religion if they are stimulated by external events with religious undertones (Ochsner and Roesel, 2024).

The estimated effects are robust to various empirical tests. Findings are unaltered by changing the estimating sample, aggregating the individual-level microdata, or including various control

[7]While this effect may appear large, it is similar to the existing studies on mental health effects of large national events. Tsai and Venkataramani (2015) show that in the aftermath of the September 11 attack in 2001, the mental health of the respondents in their data worsened by up to 60%. Using the same terrorist attack as a natural experiment, Metcalfe et al. (2011) show that respondents' subjective well-being in a British household panel survey worsened by approximately 22%. Employing landmine explosions during pregnancy in Colombia, Camacho (2008) find large negative effects on birth outcomes, which are presumably mediated through maternal stress emanating due to landmine exposure. Leveraging the plausibly exogenous variation provided by the Boston Marathon bombing in 2013, Clark et al. (2020) find happiness immediately after the bombing dropped by a third of a standard deviation. Using data from Wisconsin and using the September 11 terrorist attacks as a natural experiment, Krueger (2008) show that in the immediate aftermath of the attacks, the reported sadness increases by more than 100% over the sample mean of the pre-treatment period. Our main point estimate is in the ballpark of these estimates.

variables. The heightened intensity of sleeplessness among minorities is further evidenced by a corresponding reduction in their total sleep duration. We also demonstrate that the observed effects are not influenced by the fasting and feasting practices of Ramadan, and as such, these activities do not confound our conclusions. Placebo (state legislative) elections also do not affect sleeplessness. Combined with the effects of the Ayodhya Land Dispute Verdict, the sensitivity tests provide evidence that our conclusions are robust, and the increased sleeplessness among minorities is not merely due to monitoring electoral outcomes but is genuinely attributable to heightened anxiety and mental distress.

While uncovering heterogeneities in our estimates, we find that the effect is concentrated in districts with a historical background of Hindu-Muslim tensions only and significantly higher in the states where BJP has control of the state legislature and more electorally competitive districts. When examining whether the election results affect time spent on various broad activity categories, we do not find a statistically significant change. Nonetheless, we observe a significant decline in the time spent outdoors, suggestive of fear afflicting the religious minorities in the immediate aftermath of the elections.

With this work, we contribute to multiple strands of literature. First, we contribute to the extensive literature on the economics of religion (Iyer, 2016) by highlighting the role of religious tensions during elections in affecting the sleeplessness intensity of minority religion residents. In contrast to the existing literature that notes positive impacts of religion on mental health outcomes (Fruehwirth et al., 2019; Mellor and Freeborn, 2011), we show that for some minorities, political events may worsen mental health (Iyer and Rosso, 2020).

We also add to an expanding literature on the mental health effects associated with political events and public policies (Giuntella et al., 2021; Carod-Artal, 2017; Hainmueller et al., 2017; Venkataramani et al., 2017). In this literature, we highlight the role of religiously laced political campaigns and the potential heightening of insecurities that might be perpetuated by the large victory of parties indulging in making religious identity salient (Finke, 2013).

Finally, we also contribute to a particular strand of literature that studies myriad effects of religious fractionalizations in India (Blakeslee, 2013; Iyer, 2018; Iyer and Shrivastava, 2018; Jha, 2014; Mitra and Ray, 2014; Wilkinson, 2006). Our finding supplements this strand that only certain religion respondents experience sleeplessness from the victory of a political party pandering to the majority religion (Glaeser, 2005; Posner, 2004). To the best of our knowledge, ours is the first study that examines the potential mental health consequences emanating from the worsening social climate experienced by religious minorities in India.

The rest of the paper is organized as follows. In Section 2, we provide a brief background on the general elections held in India in 2019. We then discuss the data we employ in our study in Section 3. Section 4 presents our empirical framework along with various empirical tests to test the validity of our research design. Results are presented in Section 5. We conclude and discuss our findings in Section 6.

2 Background

General elections (or national elections) in 2019 were conducted in five phases from April to May. These elections are held to elect members for the lower house of the Indian parliament (Lok Sabha). Elected members then choose a prime minister who is the head of the central government. Often, the prime minister is a member of the party or coalition of political parties with a majority in the lower house of the parliament. Lok Sabha comprises 543 members called the members of parliament (MPs), each representing a parliamentary constituency (PC). National elections are conducted approximately every five years, with some precedence of earlier elections due to the dissolution of the parliament.

National elections in 2019 were contested amongst a mix of big national and small regional parties. Two main national parties that contested the elections were the incumbent *Bharatiya Janata Party* (BJP) and the *Indian National Congress* (INC). The incumbent BJP held onto the majority with a resounding victory in over 300 PCs. These elections were significant as it was the first time in almost 50 years that the incumbent majority party increased its tally of elected representatives (Varshney, 2019). The elections were held in the backdrop of considerable agrarian and economic distress with historic levels of unemployment.[8] Moreover, political analysts predicted that the incumbent BJP would fare poorly relative to its performance in the previous elections as it had supposedly realized potential gains in its regional strongholds of North and West India (Sridharan, 2014). What is even more striking is that the BJP won more than half the popular vote in thirteen of the 36 states and union territories. The only social group where the BJP lost vote share was Muslims (Kumar and Gupta, 2019). On the other hand, another major national party, INC, gained vote share from non-Hindu minorities, the only social group where it led BJP in vote share (Varshney, 2019).

Juxtaposed against the prevailing conditions during the 2019 national elections, the previous cycle in 2014 had relatively higher levels of anti-incumbency following a decade of INC government. 2014 elections took place amidst a persistent period of high inflation (Khambatta, 2014). High-profile corruption allegations against politicians who were part of a coalition government headed by INC resulted in voters yearning for a change which was not the case in the 2019 elections. BJP promised to revive manufacturing and improve labor market prospects as part of its outreach to voters along with a new leadership of Narendra Modi, the ruling prime minister in the 2019 elections.

On the campaign trail, BJP candidates made public comments that can be considered religiously motivated (Deccan Chronicle, 2019; Ghoshal, 2019). While there are legal repercussions to using religiously laced language in political campaigns, deterrence does not have enough teeth as the reprimands are not harsh, and monetary fines are low.

[8] See detailed discussion on the agrarian distress in the lead up to the elections in Das (2019). There were major economic headwinds in the years 2014 to 2019, such as demonetization in late 2016, implementation of goods and services tax in 2017, and collapse of non-bank lenders in 2018 (Sender, 2020).

Importantly, the political representation of minorities, or their election to parliament, is crucial for minority communities in India and holds the potential to improve downstream outcomes.[9] Yet this representation remains disproportionately low, particularly within the BJP, relative to the population share of religious minorities. BJP did field six candidates in constituencies with a sizeable Muslim population, but neither won. Consequently, there were no Muslim legislators from the BJP in the 2019–2024 parliament, despite Muslims constituting over 14% of the population, making India the country with the third-largest Muslim population.

3 Data

The ideal data to examine how the election results affected the residents would contain information on their experiences and feelings. In the absence of such data, we use nationally representative data on time-use to examine if various subpopulations were differentially impacted in their experiences following the landslide victory of the incumbent BJP in the Lok Sabha elections. We describe all data and their source in detail below.

Indian Time-Use Survey (ITUS) was collected in 2019 via personal interviews by the Indian National Sample Survey Organization (NSSO) on approximately $450,000$ respondents in more than $138,000$ households. The survey encompasses information on all activities performed in each 30-minute interval between 4 A.M. on the day preceding the interview and 4 A.M. on the day of the interview. ITUS provides activity codes using the 2016 International Classification of Activities for Time Use Statistics (ICATUS). The survey also collects information on individual and household demographics, which is used to establish the validity of our empirical framework and examine the heterogeneity across various subpopulations.[10]

We construct our outcome measure as spells of *sleeplessness*, defined as *the inability to sleep*,[11] and examine it at both the extensive margin – whether a respondent experiences any sleeplessness, and at the intensive margin – the cumulative time unable to sleep. Existing work in medical and psychological literature has demonstrated that sleeplessness might result due to perceived stress (Ellis et al., 2012; Fang et al., 2021; Kim and Dimsdale, 2007; Meaklim et al., 2023; Scott et al.,

[9] While examining the effects of the minority representation in India, Chin and Prakash (2011) demonstrate that increasing the share of seats reserved for Scheduled Tribes reduces poverty, with political reservations for these minorities delivering considerable benefits to rural Indians living below the poverty line. Kaletski and Prakash (2017) further provide evidence for the positive impact of Scheduled Tribes' representation on the frequency of health worker visits to villages. Iyer et al. (2012) demonstrate that increased female representation in local government leads to a higher number of crimes reported against women without a corresponding rise in the actual incidence of crime.

[10] We note that the reported religion in the survey data is at the household-level. Religious identity in India is a way of life and expression; all household members invariably associate themselves with the same religion (Clothey, 2007). Therefore, we assign the household-level religion to all household members. Figure C1 shows spatial variation in the proportion of Muslims (the largest minority religion group in India) in the district populations. For more details about ITUS, see Jafarov et al. (2023).

[11] This outcome variable is constructed using the three-digit activity codes in ITUS. The 2016 ICATUS three-digit activity code associated with sleeplessness is 913.

2021), be a precursor and is often perpetuated by anxiety and depression (Al Balushi et al., 2024; Shanahan et al., 2014; Narisawa, 2013; Neckelmann et al., 2007; Fava, 2004; Walsh, 2004). Building on findings from medical literature, economists have also adopted sleep quality as an indicator of mental health. For example, Giuntella et al. (2021) examined how changes in immigration policy affect immigrants' mental health and observed a marked improvement in sleep quality following the implementation of the Deferred Action for Childhood Arrivals (DACA) policy. Relying on these studies, we treat spells of sleeplessness as a proximate cause of anxiety surrounding the elections.[12] Fear of exclusion, retribution, and backlash could heighten anxiety for certain groups of people, and we causally establish that this indeed is the case in the backdrop of general election results in India in 2019.

Sleeplessness, in our context and based on the ITUS specification, is uniquely defined and distinct from other activities such as being in bed while reading or using a smartphone; it is explicitly reported only when the respondent is attempting to sleep but cannot. For respondents to report any sleeplessness, they must perceive that the time spent unable to sleep exceeds their usual experience. Meta-analyses, as well as positive and normative studies in the fields of medicine, neuroscience, and psychology (Pierson-Bartel and Ujma, 2024; Iskander et al., 2023; Thomas and Anderson, 2013), establish that normal sleep latency – a standard benchmark – ranges between 10 and 20 minutes. Additionally, the ITUS records only activities lasting at least 10 minutes. The mean frequency of sleeplessness episodes (see Table C1) in our sample is 2.4 minutes, which can be interpreted as marginal sleeplessness beyond the normal threshold of 10 minutes. Therefore, the use of a Time-Use Survey is nearly optimal not only for measuring the likelihood of experiencing any sleeplessness but also for the cumulative time spent on the episodes of sleeplessness. It serves as a high-quality data source for directly tracking the frequency of sleeplessness episodes and overall sleep/sleeplessness duration, as well as providing a representative and impartial assessment of population well-being, aligning seamlessly with the objectives of this study.

We also obtained information on the weather conditions on the days when the respondents were surveyed since these conditions may impact time allocation across different activities (Jafarov et al., 2023). These data are derived from satellite reanalysis data ERA5-Land climate (Hersbach et al., 2020). We use information on temperature and precipitation on the day of the survey.

To construct the measure of electoral competition at the district-level, we use data from Bhogale et al. (2019). Based on existing literature, our primary measure of electoral competitiveness is the Effective Number of Parties (ENOP) at the district-level, depicted on a map in Figure C2. To aggregate constituency-level ENOP, we take the arithmetic mean for all parliamentary constituencies in a given district.[13]

[12] Albeit correlational, Appendix A illustrates that sleeplessness is associated with worse mental health outcomes in India.

[13] Consider district d that has n_d number of Parliamentary Constituencies. The district-level ENOP is defined as $\frac{\sum_{i=1}^{n_d} ENOP_i}{n_d}$, where $ENOP_i = \sum_{j=1}^{n_i} \frac{1}{v_j^2}$ is ENOP for PC i, v_j is the vote share of candidate j in this PC amongst a total of n_i candidates in the PC. Figure C3 illustrates the spatial variation in the district-level ENOP below and

Descriptive statistics for the entire sample are presented in Table C1. These summary statistics suggest that our sample captures the broader demographics of the population very well and that there is significant variation in the outcome variable of interest. In Figure 1, we see that the sleeplessness spells are, on average, concentrated during those times when the respondents are trying to sleep during the day – the early afternoon and in the night, i.e., typical times when respondents are most likely to sleep (Bessone et al., 2021).

4 Empirical Strategy

To estimate the causal effect of election results on the outcome variable, we employ a regression discontinuity design (RDD) by estimating the following specification:

$$\begin{aligned} y_i =& \alpha_h + \tau_h \cdot \mathbb{1}\left\{Date_i > ResultsDate\right\} + \beta_h^- \cdot (Date_i - ResultsDate) \\ &+ \beta_h^+ \cdot \mathbb{1}\left\{Date_i > ResultsDate\right\} \cdot (Date_i - ResultsDate) + \epsilon_i \end{aligned} \tag{1}$$

In Equation 1, y_i is the outcome of interest for respondent i. $Date_i$ refers to the day on which the respondent i is interviewed, while $ResultsDate$ is the day of the Lok Sabha election results announcement – May 23, 2019.[14] The estimate of τ_h captures the effect of being interviewed after the general election result announcement on the outcome variable. This parameter estimate depends on the bandwidth h used to determine the estimating sample. In all our specifications, we use optimal bandwidth according to the method of Calonico et al. (2017). We allow the slope of the conditional expectation function to be different on either side of the cutoff (β_h^- and β_h^+ are the slope parameters to the left and right of the cutoff, respectively) and use a triangular kernel, which assigns a higher weight to an observation close to the threshold. Our running variable takes discrete values only but has rich support permitting the use of standard estimation methods for continuous running variable (Cattaneo et al., 2020b; Kolesár and Rothe, 2018).

We establish the robustness of our empirical framework through multiple validity checks according to Cattaneo et al. (2020b). The identifying assumption in our empirical framework is the continuity of potential outcomes of respondents who are surveyed on either side of the day of the election result announcement. One way to assess the validity of this assumption is to establish that observable covariates that are potentially correlated with the outcome of interest do not change discontinuously around the cutoff. In Table C2, we show that none of the observable

above the median.

[14]While there were exit polls at the end of the last phase of voting on May 19, we show later that there is no effect of the exit poll predictions on the incidence of sleeplessness (see Table C4). It is not clear whether exit polls have any effect on the sleeplessness intensity of minorities. The exit polls projected widely different election outcome scenarios, with some polls predicting a hung parliament while others projected a substantial majority for the incumbent BJP. Therefore, the election outcome was apriori uncertain even if some exit polls predicted a majority for the incumbent coalition of parties.

covariates change discontinuously on the day of the election result announcement.[15] Figure C4 shows that the density of responses might have potential discontinuities across the treatment threshold.[16] We also check for manipulation-robust treatment effects using Gerard et al. (2020) approach, for which the findings provide no evidence of manipulation at the threshold.[17] Table C3 establishes that the number of interviews does not change significantly around the cutoff for our main estimating sample.

We also perform a falsification check where artificial cutoffs are chosen before and after the actual cutoff. The results from this exercise in Table C4 show that there is no evidence of discontinuity in the outcome variable away from the cutoff. In Table C5, we establish that our estimates are not sensitive to observations near the cutoff. Table C6 confirms that our estimates are also not sensitive to alternate bandwidth choices. These balance tests and placebo checks suggest that the identification assumptions for our estimates to be interpreted as causal are not violated.

5 Results

We present the main results at the extensive and intensive margin in Figure 2 and Figure 3, respectively. Exhibits suggest that following the overwhelming majority obtained by the BJP in the 2019 elections, respondents from all religions except Hinduism report an increased inability to sleep. This finding is true both for the likelihood of reporting any sleeplessness and the minutes of sleeplessness at the intensive margin. The effects are driven by those who report following Islam or Christianity and persist for about 40 days after the election results announcement.

Table 1 provides more details on the main results, including the point estimates for the sleeping time. Panel A shows that minorities' likelihood of reporting any sleeplessness on the day of election results goes up by 2.4 percentage points. This is a sizeable effect, as it indicates the 120% increase over the pre-election mean. The point estimate for respondents following Islam is significantly larger than the point estimate for respondents who follow Christianity. In particular, this effect for Muslims and Christians is 4.8 and 1.2 percentage points (nearly 120% increase relative to the pre-election mean increase for both groups), accordingly. On the other hand, election results decreased Hindus' likelihood of reporting sleeplessness by 0.7 percentage points, which stands for a drop of nearly 18% compared to the pre-election mean.

Panel B of Table 1 reflects that while Hindus experience no statistically significant change in their sleeplessness intensity, minorities experience increased spells of sleeplessness. The point

[15] In our main estimation sample of respondents who do not report their religion to be Hinduism, only the indicator variable reporting usual principal activity status as self-employed has a p-value of 0.1. In Table C7, we show that our main conclusions are unaltered when we control for these observable characteristics of the respondents.

[16] The corresponding p-value is 0.3908. The asymmetry between point estimate and confidence bounds results from different polynomial degrees for their estimation (Cattaneo et al., 2020a).

[17] The manipulation-robust estimate is 1.09, which is very close to our preferred point estimate of 0.917.

estimate of 0.917 shows the marginal increase in the sleeplessness time in minutes (81% increase relative to the pre-election mean). Muslim respondents see an increase in sleeplessness intensity of approximately 125% (2.9 minutes). This increase for Christians is nearly 263% (0.3 minutes).[18] These effects are substantial,[19] indicating a significant decline in mental well-being, yet they align closely with findings from existing studies on the mental health impacts of major national events (Clark et al., 2020; Tsai and Venkataramani, 2015; Metcalfe et al., 2011; Krueger, 2008; Camacho, 2008) (See Footnote 7 for a discussion on the magnitudes of these point estimates in existing literature).

Given the observed impact on the inability to sleep, it is also reasonable to expect a corresponding effect on sleep duration, which is precisely what our analysis reveals. Panel C of Table 1 shows no significant effect on the likelihood of reporting any sleep at the extensive margin, which serves as a useful robustness check, as we should not observe any statistical change in whether individuals sleep at all. In contrast, Panel D provides evidence of differential effects on sleep duration, with an increase for Hindus and a decrease for minorities, which is consistent with the nature of our findings that minorities experience a significant increase in the inability to sleep, whereas Hindus do not. Figure 1 also highlights that these sleeplessness episodes occur during typical sleeping periods – afternoons and nights, further corroborating our findings.

Insofar as sleeplessness is positively associated with underlying anxiety, the findings suggest that minorities experience severely worsened mental health on the grounds of religious rhetoric in the immediate aftermath of the BJP's landslide victory in the 2019 elections.

To bolster our claim that religious tensions might negatively affect minorities, we leverage another national event that potentially affected a particular minority religion profoundly – the *Ayodhya Land Dispute Verdict* by the Supreme Court of India. This is a dispute regarding the land that was contested as the site of the birthplace of the Hindu deity Rama and the mosque Babri Masjid. The dispute led to the demolition of the mosque in 1992. The religious tensions in the aftermath of the demolition led to riots in many cities in India, with scores of people killed. After the State High Court pronounced its verdict in 2010 to split the disputed land among the contesting parties, the Supreme Court took up the case and pronounced its verdict on November 9, 2019.[20] We modify specifications in Equation 1 by replacing the cutoff date from the day of the announcement of the Lok Sabha election results with the day of the announcement of the

[18] We also reject the null hypothesis that there is no statistically significant difference between estimates for Muslim and Christian respondents (p-value: 0.00).

[19] Though the magnitude of the effect in minute terms might appear small, they are of meaningful economic magnitude as the benchmark for normal sleep latency in medical and neuroscience studies (Pierson-Bartel and Ujma, 2024; Iskander et al., 2023; Thomas and Anderson, 2013) is between 10 and 20 minutes. Furthermore, since the ITUS records only activities lasting a minimum of 10 minutes, the mean sleeplessness episode duration of approximately 2 minutes represents the additional time respondents perceive as being unable to sleep beyond their typical latency. The ITUS threshold of 10 minutes also aligns perfectly with findings at the extensive margin, as the observed increase in the likelihood of minorities reporting any sleeplessness means a rise in the number of minority respondents who report sleeplessness episodes exceeding 10 minutes, the standard latency benchmark.

[20] See BBC (2012) for a historical background on the Ayodhya Land Dispute.

Ayodhya Land Dispute Verdict. Given the explicitly Hindu-Muslim nature of this major event, our findings in Table 2 first confirm that Muslims experience heightened sleeplessness after the Verdict announcement, and second, that the effect is concentrated among Muslim respondents only rather than other religious groups.

To further establish that the sleeplessness in our case reflects deterioration in mental health, we test the impact of placebo (state legislative) elections on sleeplessness. Specifically, we change the cutoff date in Equation 1 from the day of the announcement of the Lok Sabha election results to the day of the announcement of the state elections.[21] Results in Table 2 prove that our main conclusions are not driven by a change in time-use patterns that emerge in the aftermath of state elections, i.e., state legislative elections do not causally affect minorities' inability to sleep. These findings, combined with the Muslims' heightened anxiety after the Ayodhya Land Dispute Verdict, indicate that for the main effect (the effect of the Lok Sabha elections results announcement on anxiety), minorities are not solely awake to follow the electoral process.

We then establish the robustness of our main finding of the increase in sleeplessness experienced by minorities in the backdrop of the resounding electoral success of the incumbent BJP. The estimates from alternate samples and aggregations, where we restrict the sample to the respondents who report their religion not to be Hinduism, are presented in Table C7. Our point estimates are unaltered on expanding the bin width with multiple number of days (Figure C5), dropping households with infants, states that held state legislative assembly elections concurrently with the Lok Sabha elections, ITUS-classified "other" days,[22] and weekends. The point estimates are much larger if we rely on the time division where all the time is allocated to the major activity.[23] This conclusion also holds when we include outlier observations that have extremely high levels of reported time spent experiencing sleeplessness.[24]

Our point estimates on including individual and household controls are relatively smaller but point to the same increase in sleeplessness experienced by minorities. Cattaneo et al. (2020b) suggests that RDD with multiple mass points and discrete running variables are similar to a single mass point for each discrete value of the running variable. We show that when we aggregate our data to a single mass point as the average value of the outcome variable, the point estimate is slightly attenuated but is qualitatively similar to the main point estimate. These results suggest that our empirical setup is not confounded by alternate samples, the inclusion of other control variables, or by different aggregation of data.[25]

[21] We restrict our analytical sample to the states only where the state legislative elections were conducted during our sample period.

[22] In ITUS, the day is designated as "other" if the respondents cannot perform their normal routine activities.

[23] Respondents are instructed to report "major" activity in case multiple activities are performed in a given time slot. For more details on the "major" and "minor" classification of activities, see Jafarov et al. (2023).

[24] In our main estimation samples, we drop all respondents who report sleeplessness time, which is above the 99^{th} percentile of the distribution.

[25] Using Hindus as a control group in a difference-in-differences framework where the specfication treats time spent experiencing sleeplessness as the dependent variable and controls for district and state-by-month-fixed-effects

Since in 2019, Ramadan (from May 5 to June 3) overlapped with the Lok Sabha elections (May 23), and given that our main findings are concentrated among Muslims, it is also crucial to assess whether fasting during Ramadan contributes to sleeplessness and potentially confounds our estimates. To address this potential concern, we conducted a robustness check by restricting the analytical sample to non-fasting Muslims only. The results, as presented in Figure C6, reveal that the point estimates not only retain their statistical significance but also increase in magnitude, suggesting that sleeplessness is primarily concentrated among non-fasting Muslims. Combined with the findings from Table C7 on dropping the start and end dates of Ramadan, these tests and our identification strategy collectively indicate that Ramadan does not confound our estimates, and neither fasting nor feast days are driving the observed effects.

We next turn to examining if the main effect differs across various subpopulations. We once again restrict the estimating sample to those respondents who do not report their religion to be Hinduism. The results are presented in Figure 4.

Findings from the heterogeneity analysis reveal that the increase in minorities' post-election sleeplessness is confined to districts with a historical background of Hindu-Muslim tensions. This observation can be attributed to heightened anxiety among minority religion respondents in regions, where past conflicts have likely exacerbated feelings of insecurity in the wake of the ruling party's victory. Importantly, the estimated effect of election results differs by the electoral competitiveness in the district – the intensity of sleeplessness is more pronounced in more electorally competitive districts, which suggests that electoral competition-driven incentives to indulge in partisan campaigns might potentially worsen the mental health.[26] Moreover, minorities' sleeplessness becomes more pronounced as the fraction of "General" or "OBC" caste Hindus in the district increases (Figure C7), which is not surprising as these are the social classes that BJP panders to more intensively (Vaishnav and Hintson, 2019).

Upon examining the heterogeneity by where the respondent resides in the four distinct regions of the country, we find that the effect is concentrated in northern and western parts. This result ties well with the following finding on the larger effect in states where BJP has control of state legislature, which suggests that minorities might experience a relatively more pronounced increase in sleeplessness if there is an overlap between the ruling party at the federal and state levels. Although local legislators may improve local economic outcomes if they belong to the ruling party at a higher level, these improvements may worsen the existing disparities across ethnic groups (Asher and Novosad, 2017; Banerjee et al., 2005).

We also find that the increased sleeplessness is concentrated in the top quartiles of consumption expenditure. A more pronounced effect for relatively wealthier respondents may emanate from feelings of increased risk to their physical capital or other costly assets in the event of backlash.

results in a point estimate of 1.263 with a standard error of 0.3864.

[26] Districts with a high percentage of Muslim population exhibit a significant increase in instances of sleeplessness (Table C10). This observation highlights the role of competition-driven incentives, as higher proportions of minorities in districts may increase their hopes of victory, thereby heightening stress levels.

Though we do not find any significant reallocation of time among various activities, the results provide evidence that minorities spend less time outdoors after the elections (Table C8). This reduction is probably due to the fact that minorities feel insecure and limit their outdoor time to lower the potential backlash they may be subjected to.[27]

Table C9 and Table C10 provide more details on the difference across subpopulations on the extensive and intensive margin, respectively. Results illustrate that the effect of election results on sleeplessness is more pronounced for males; existing work shows that females, on average, have better objective sleep quality with relatively lower sleep latency values (Lauderdale et al., 2006). Our point estimates suggest that exposure to a potentially overwhelming external event might exacerbate this sleep quality gender gap. We also reveal that the main effect is driven by increased sleeplessness in young adolescents and non-elderly adults. Respondents who have only completed primary school almost entirely lead to an increase in sleeplessness post-election results. We consider this finding to be symptomatic of the wider issues of the members of minority religions. As poor sleep quality hinders productive capacity and since respondents with only primary school are more likely to be employed in occupations where tasks are more routine and physical,[28] sleeplessness may put them at increased risk of physical injury or harm to the work. This hypothesis is bolstered by the relatively larger point estimate for the self-employed and casual wage laborers.

6 Conclusion and Discussion

Since the BJP came to power, violence against religious minorities has increased, leaving them feeling increasingly insecure due to political and social trends. In this paper, we identify the causal effect of the announcement of the 2019 national election results (the landslide victory of the incumbent BJP) on the *inability to sleep* experienced by the minority religion respondents. Our results show that while there is no effect for Hindus, there is a substantial increase for minorities, especially Muslims.

These findings can be interpreted as the negative mental health consequence of religious rhetoric in the lead-up to the elections and during election campaigning by the incumbent BJP candidates.

While documenting significant heterogeneity across subpopulations, we find that the effect is more pronounced for minorities with above-median consumption expenditure, residents of states with BJP-controlled state legislatures, and those living in districts with higher levels of electoral competition. This pattern is also observed in districts with a history of Hindu-Muslim riots.

To monetize the effects of sleeplessness due to the 2019 general elections, we use data from Periodic Labor Force Survey on the working population and their daily wages and rely on Costa-

[27] We note that the reduction in time outdoors is not statistically significant when we account for the multiple hypothesis testing (Clarke et al., 2020).

[28] Almost two-thirds of respondents who have potentially completed schooling and have up to primary schooling report working either as self-employed or casual wage laborer or attending to domestic duties.

Font et al. (2024) in parameterizing how sleeplessness affects wages. We estimate that the heightened sleeplessness spells have led to lost wages of $15 million per working day, which is likely a lower bound as it abstracts from accounting for general equilibrium consequences of lost productivity and due to the strong assumptions (see Appendix B for more details about the quantification of pecuniary costs).

These findings, along with our main results, suggest that in periods of religious fervor, minorities could benefit from improved access to mental health services. This policy recommendation is further supported by Angelucci and Bennett (2024), who demonstrate that providing depression treatment, such as psychiatric care and livelihood assistance, significantly and persistently reduces mental health issues in India. Additionally, providing information about the costs of sleeplessness (or the benefits of sleep) may also serve as an effective intervention, as documented in the Indian context by Bessone et al. (2021).

Considering these findings are crucial for understanding the broader societal impacts of political polarization and its influence on the mental health of vulnerable communities, there are prospective avenues of research that remain unexplored herein due to data constraints. One such intriguing perspective involves delving into the causal impact of the general elections on workplace efficiency, short-term educational accomplishments, and other potential outcomes of the interest, whereby sleeplessness could emerge as a pivotal mechanism. While mental health issues are highly correlated with sleeplessness, scholars may examine the clinical diagnoses employing novel data and test how respondents cope with mentally stressful episodes when the source of stress has religious underpinnings. Minorities may also alter fertility decisions and reevaluate their mobility in the long term. Finally, one may shed light on further downstream effects of worse sleep quality of minorities that may worsen the existing socioeconomic disparities in India.

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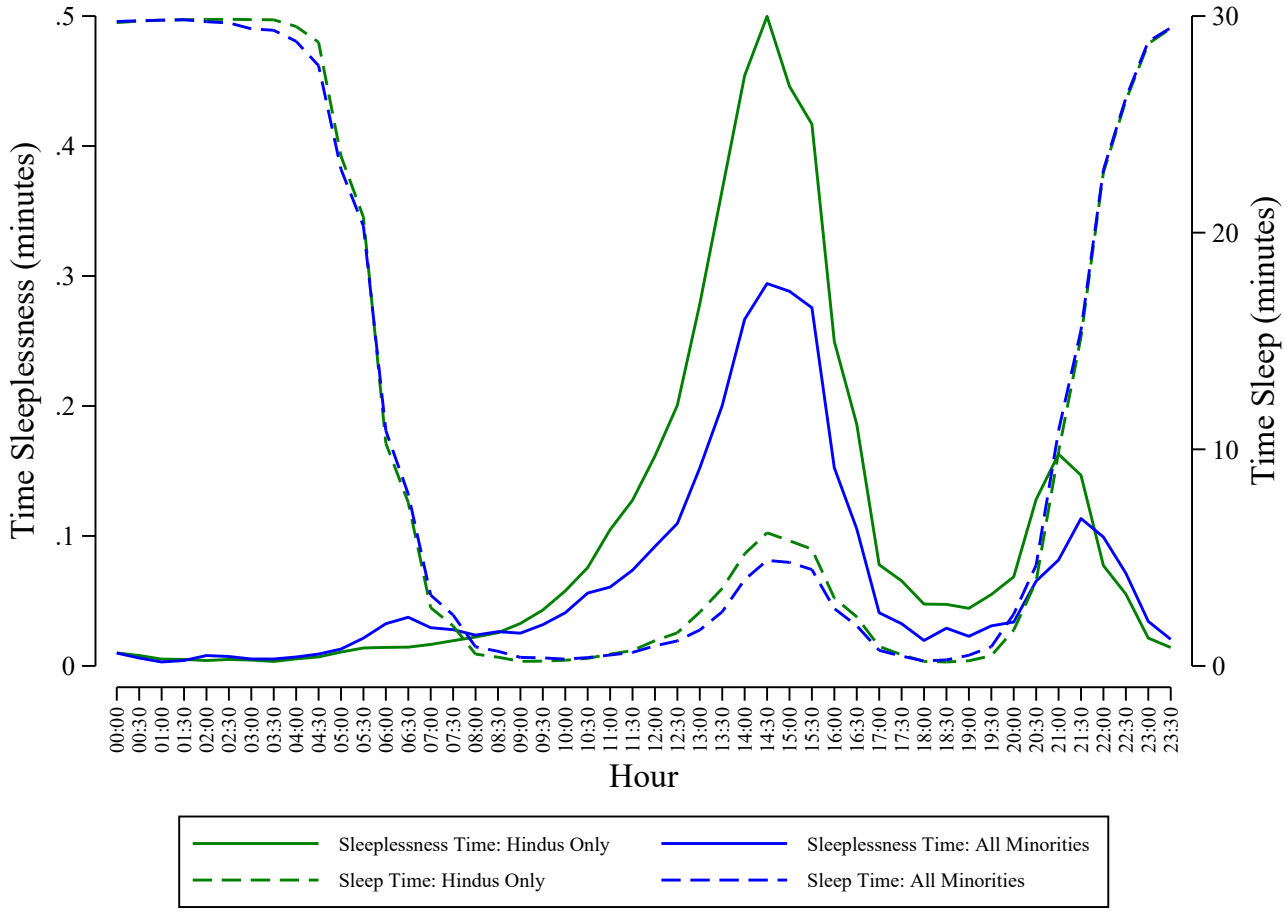
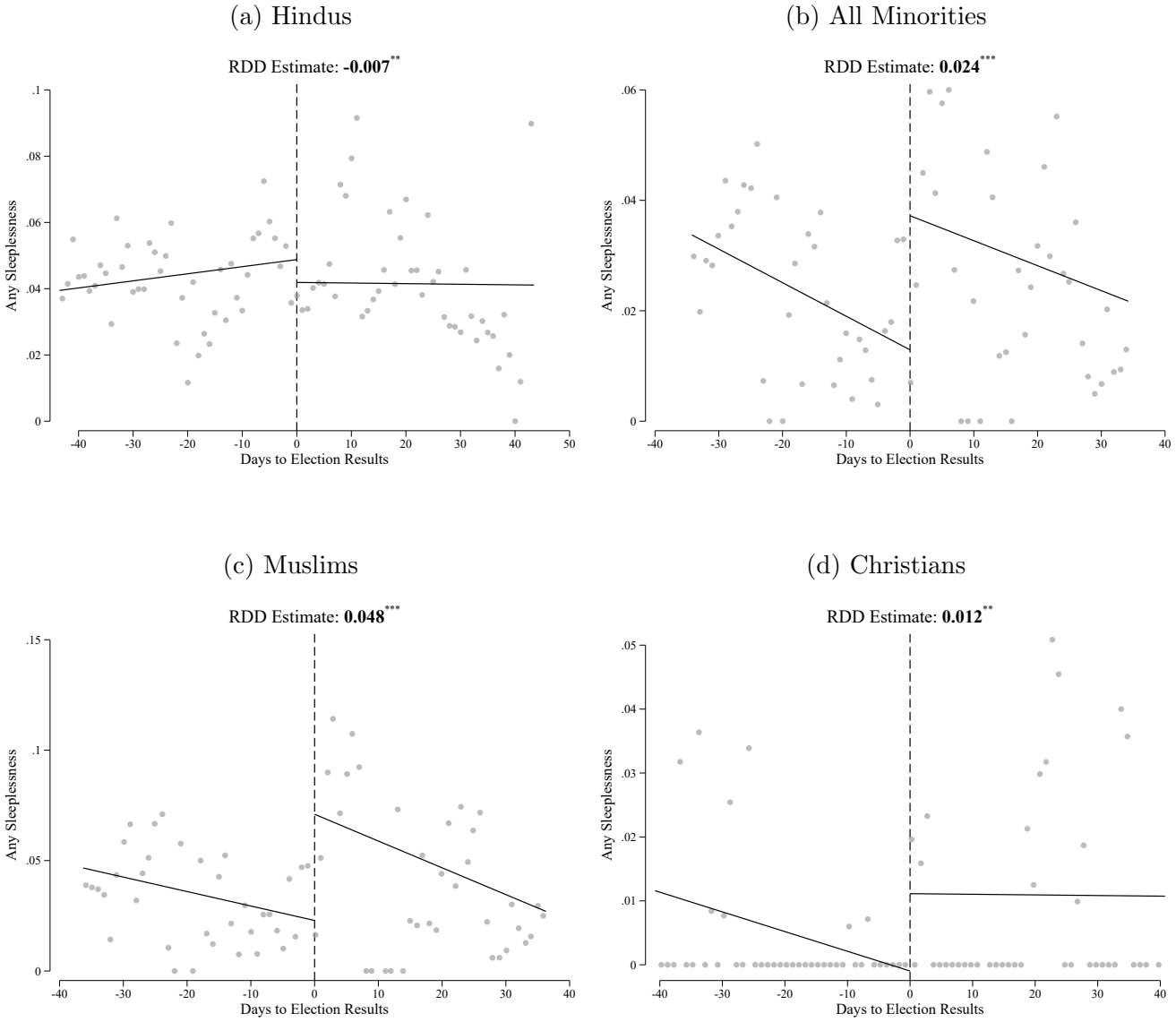
Figures and Tables

Figure 1: Time on Sleep and Sleeplessness



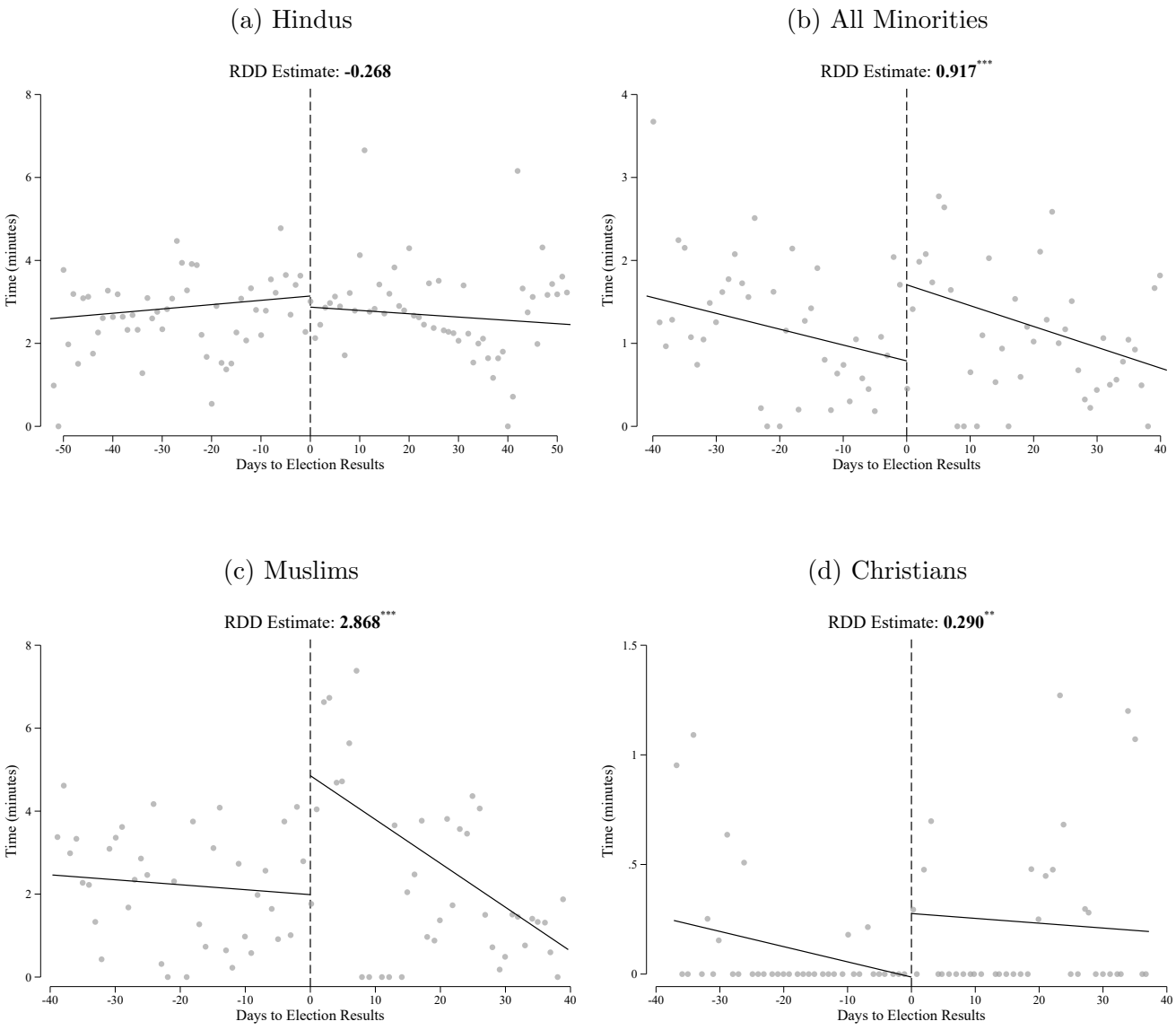
Notes: The data comes from the India Time-Use Survey (ITUS) 2019. The sample is restricted to those respondents who were interviewed before May 23, 2019. Time on sleeping and sleeplessness activities within each 30-minute interval is averaged over all the respondents.

Figure 2: Effect of Elections on Sleeplessness, Extensive Margin



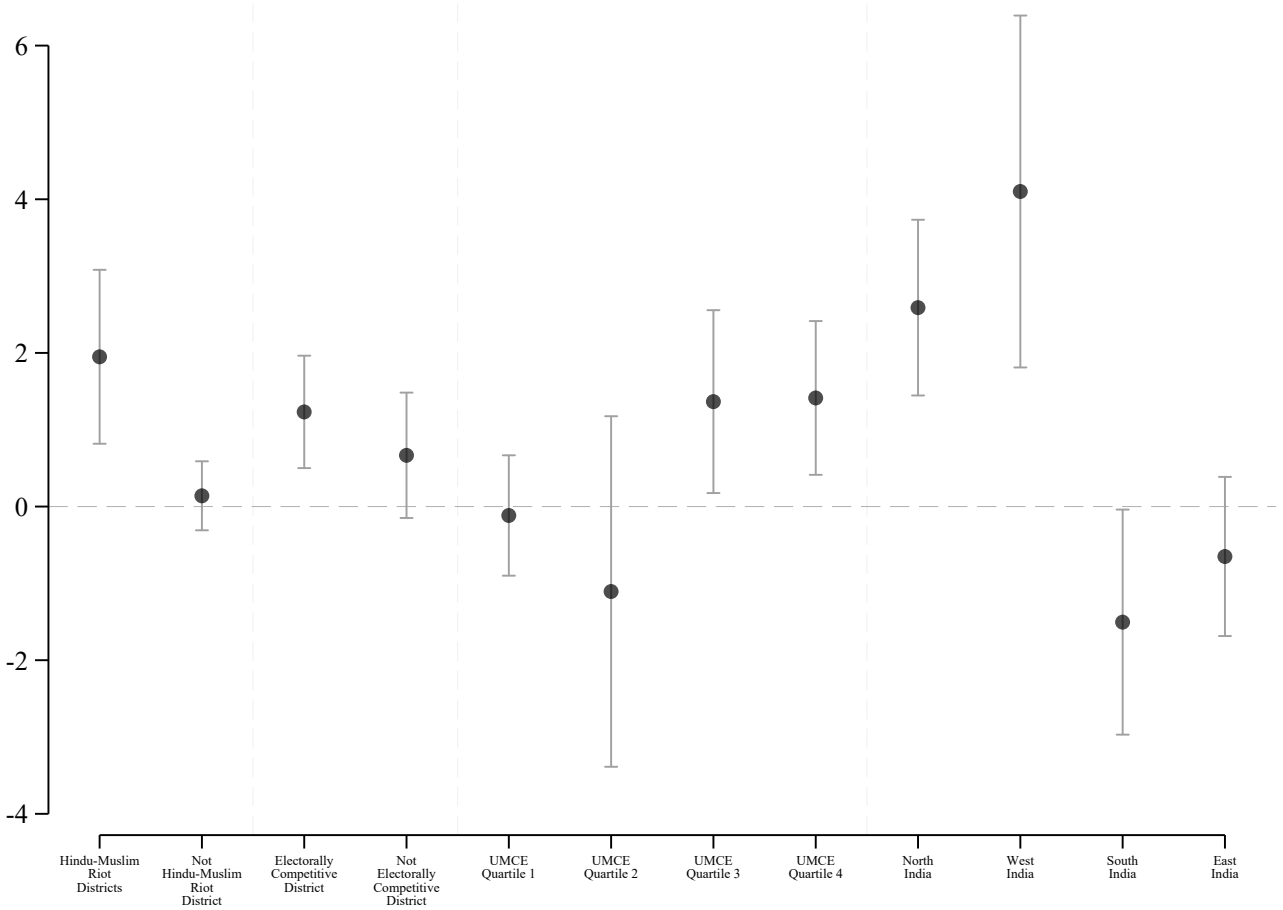
Notes: Authors' calculations. The data comes from the India Time-Use Survey (ITUS) 2019. The dependent variable on the vertical axis indicates whether any time is spent experiencing sleeplessness. The polynomial order for conditional expectations functions on either side of the cutoff is one. A triangular kernel is used for local polynomial estimation. The optimal bandwidth for each subpopulation is calculated using default settings of Calonico et al. (2017). Daily bins; the first bin after the value 0 refers to May 23, 2019.

Figure 3: Effect of Elections on Sleeplessness, Intensive Margin



Notes: Authors' calculations. The data comes from the India Time-Use Survey (ITUS) 2019. The dependent variable on the vertical axis indicates the time spent experiencing sleeplessness in minutes. The polynomial order for conditional expectations functions on either side of the cutoff is one. A triangular kernel is used for local polynomial estimation. The optimal bandwidth for each subpopulation is calculated using default settings of Calonico et al. (2017). Daily bins; the first bin after the value 0 refers to May 23, 2019.

Figure 4: Heterogeneity



Notes: The dependent variable is the time spent experiencing sleeplessness in minutes for minorities. Estimates from the estimator in Calonico et al. (2017) with default options are reported. 95% confidence intervals are constructed using bias-corrected standard errors. The data on electoral competition are derived from Bhogale et al. (2019). The data on historical Hindu-Muslim riots are from Varshney and Wilkinson (2006).

Table 1: Effect of Election Results on Sleeplessness – Main Effect

Sample	Optimal	RD	Robust Inference		Number of	Dep. Var.	Dep. Var.
	Bandwidth	Estimator	p-value	95% CI	Observations	Mean	SD
Panel A: Sleeplessness Extensive Margin							
All Religions	49.32	0.002	0.29	[-0.00, 0.01]	123,587	0.04	0.19
Hindus Only	43.48	-0.007	0.02	[-0.01, -0.00]	87,736	0.04	0.20
All Minorities	34.22	0.024	0.00	[0.01, 0.04]	22,010	0.02	0.15
Muslims Only	36.28	0.048	0.00	[0.03, 0.06]	13,493	0.04	0.19
Christians Only	40.76	0.012	0.03	[0.00, 0.02]	5,496	0.00	0.07
Panel B: Sleeplessness Intensive Margin							
All Religions	45.43	0.228	0.19	[-0.14, 0.70]	117,753	2.48	14.18
Hindus Only	52.68	-0.268	0.19	[-0.78, 0.16]	97,505	2.69	14.79
All Minorities	40.99	0.917	0.00	[0.42, 1.51]	24,812	1.13	8.10
Muslims Only	39.65	2.868	0.00	[1.69, 4.34]	14,275	2.30	13.64
Christians Only	37.20	0.290	0.04	[0.02, 0.64]	5,155	0.11	1.74
Panel C: Sleep Extensive Margin							
All Religions	49.88	-0.000	0.59	[-0.00, 0.00]	124,009	1.00	0.01
Hindus Only	45.03	-0.000	0.45	[-0.00, 0.00]	90,637	1.00	0.01
All Minorities	39.17	0.000	0.74	[-0.00, 0.00]	24,531	1.00	0.01
Muslims Only	62.19	-0.000	0.62	[-0.00, 0.00]	22,277	1.00	0.01
Christians Only	67.86	-0.002	0.02	[-0.00, -0.00]	10,669	1.00	0.01
Panel D: Sleep Intensive Margin							
All Religions	16.49	-2.320	0.17	[-7.05, 1.21]	42,264	539.75	93.56
Hindus Only	29.93	7.477	0.00	[3.75, 11.09]	61,116	540.88	93.74
All Minorities	15.94	-16.304	0.00	[-27.60, -8.11]	9,443	536.04	92.88
Muslims Only	16.01	-14.434	0.01	[-29.67, -3.37]	5,685	532.45	97.42
Christians Only	31.59	-17.102	0.02	[-31.28, -3.11]	4,283	540.03	83.08

Notes: Each row corresponds to a different sample. Rows indicate the estimating sample. In Panel A, the dependent variable in all rows is an indicator variable for whether any time is spent experiencing sleeplessness. In Panel B, the dependent variable is the time spent experiencing sleeplessness in minutes. Sleeplessness activity is discussed in Section 3. In Panel C, the dependent variable in all rows is an indicator variable for whether any time is spent sleeping. In Panel D, the dependent variable is the time spent sleeping in minutes. The optimal bandwidth is calculated using default settings of Calonico et al. (2017). The sample contains data from the India Time-Use Survey (ITUS) 2019.

Table 2: Effect of Election Results on Sleeplessness – Additional Events

Sample	Optimal	RD	Robust Inference		Number of	Dep. Var.	Dep. Var.
	Bandwidth	Estimator	p-value	95% CI	Observations	Mean	SD
Panel A: Sleeplessness Extensive Margin							
Cutoff: Ayodhya Dispute Verdict							
All Religions	15.83	-0.015	0.00	[-0.03, -0.01]	40,195	0.04	0.19
Hindus Only	32.10	-0.005	0.25	[-0.01, 0.00]	70,856	0.04	0.20
All Minorities	24.89	-0.004	0.58	[-0.02, 0.01]	13,499	0.02	0.15
Muslims Only	22.47	0.017	0.12	[-0.00, 0.04]	7,444	0.04	0.19
Christians Only	23.34	-0.040	0.00	[-0.07, -0.01]	2,953	0.01	0.07
Cutoff: State Legislative Elections							
All Minorities	13.85	0.046	0.26	[-0.04, 0.13]	630	0.06	0.24
Panel B: Sleeplessness Intensive Margin							
Cutoff: Ayodhya Dispute Verdict							
All Religions	28.39	0.155	0.56	[-0.30, 0.56]	78,134	2.32	13.56
Hindus Only	30.25	0.006	0.85	[-0.44, 0.53]	66,875	2.54	14.16
All Minorities	26.04	0.170	0.60	[-0.51, 0.88]	14,643	1.01	7.58
Muslims Only	26.94	1.696	0.00	[0.61, 3.13]	8,655	2.14	13.00
Christians Only	22.56	-1.075	0.00	[-1.93, -0.36]	2,835	0.14	1.94
Cutoff: State Legislative Elections							
All Minorities	15.83	7.377	0.13	[-2.61, 19.85]	691	5.46	24.50

Notes: Each row corresponds to a different sample. Rows indicate the estimating sample. In Panel A, the dependent variable in all rows is an indicator variable for whether any time is spent experiencing sleeplessness. In Panel B, the dependent variable is the time spent experiencing sleeplessness in minutes. Sleeplessness activity is discussed in Section 3. Ayodhya Dispute Verdict Cuttoff date is November 9, 2019. State legislative election announcement Cutoff date is October 24, 2019. The optimal bandwidth is calculated using default settings of Calonico et al. (2017). The sample contains data from the India Time-Use Survey (ITUS) 2019.

Appendices

Appendix A Sleeplessness and Mental Health in India

To ensure that sleeplessness is indeed associated with worse mental health in our population of the study, we draw upon detailed mental health information in the Longitudinal Aging Study in India (LASI) (Bloom et al., 2021). It is worth highlighting that the lack of information on the interview date in the LASI data precludes us from examining some of these health outcomes. Additionally, the 75^{th} round of the National Sample Survey is conducted between 2017 and 2018. Therefore, we cannot use these publicly available data to answer the research question posed in this paper.

LASI data, however, provide information on the extent of sleeplessness and feelings associated with mental stress, such as feeling worried or stressed. Raw correlations suggest that approximately 11% of respondents who experienced sleeplessness on the day before the interview felt worried or stressed and that medium-term sleeplessness is positively correlated with a clinical diagnosis of depression.

The low level of correlation between sleeplessness and self-reported worsened mental health could be due to the stigma attached to mental health in India (Maulik et al., 2017), or due to the fact that the depression (clinically diagnosed health condition) involves prolonged sadness and loss of interest, whereas shorter, intense episodes of worry and fear characterize anxiety. Overall, the LASI data analysis confirms that sleeplessness is negatively correlated with mental health outcomes for the Indian population.

Appendix B Quantifying the Monetary Cost of Sleeplessness

In this section, we monetize the effects of sleeplessness due to the landslide victory of the incumbent party in the 2019 general elections in India.

Our estimate of how sleeplessness may affect wages comes from Costa-Font et al. (2024). Costa-Font et al. (2024) estimate that each hour of sleep increases hourly wages by 4.2%. To convert these estimates to a minute of sleep, we make parametric assumptions. We assume that each additional minute of sleep affects hourly wage through a concave function. In other words, the marginal return to each additional minute of sleep in terms of hourly wage decreases as sleep duration increases. We assume that each additional minute of sleep increases hourly wage by $\left(\frac{4.2}{60x}\right)$, where x determines the rate at which an additional minute of sleep affects hourly wage. As x increases, each additional minute of sleep exerts a smaller influence on hourly wage. We report estimates assuming different values of x. Specifically, we assume that $x \in [1, 5]$.

We use data from Periodic Labor Force Survey (PLFS) 2017-18 to obtain estimates for the working population and their annual daily wages. We use population estimates only for those respondents who report Islam as their religion. Population estimates along with annual daily wages are used for respondents whose usual principal activity status is either salaried/regular wage, self-employed, or casual wage labor. As PLFS provides wages for four different quarters, we use the minimum wages across these four quarters for each of the three principal activity statuses.

The population estimate for respondents with self-employed as their usual principal activity status is $20,797,500$. The daily wage for these respondents is estimated to be 396 rupees. Population and daily wage for salaried/regular wage respondents are 8,279,800 and 528 rupees, respectively. Finally, the population and daily wage for casual labor respondents are 10,454,000 and 243.11 rupees, respectively.[29]

We combine these estimates for population and wages with our marginal effect of sleep time in minutes for Muslim respondents in Table 1. In Table B1, we report lost hourly wages due to reduced sleep for multiple values of x. In particular, we assume that $x \in [1, 5]$. These estimates are calculated using 80 rupees as the conversion rate for each USD assuming that each respondent works for eight hours, and are measured as follows:

$$\left(\left(\frac{0.042}{60x}\right) \times 8\right)$$
$$\times \left(\left(20797500 \times \left(\frac{11884.60}{30}\right)\right) + \left(8279800 \times \left(\frac{15844.77}{30}\right)\right) + (10454000 \times 243.11)\right)$$
$$\times (-14.434) \times \left(\frac{1}{80}\right) \times \left(\frac{1}{1000000}\right)$$

[29] These estimates are derived from the annual report of PLFS 2017-18 available at https://mospi.gov.in/sites/default/files/publication_reports/Annual%20Report%2C%20PLFS%202017-18_31052019.pdf?download=1. Tables 42 and 54 are used for wage and population estimates.

.

Table B1: Quantification Estimates

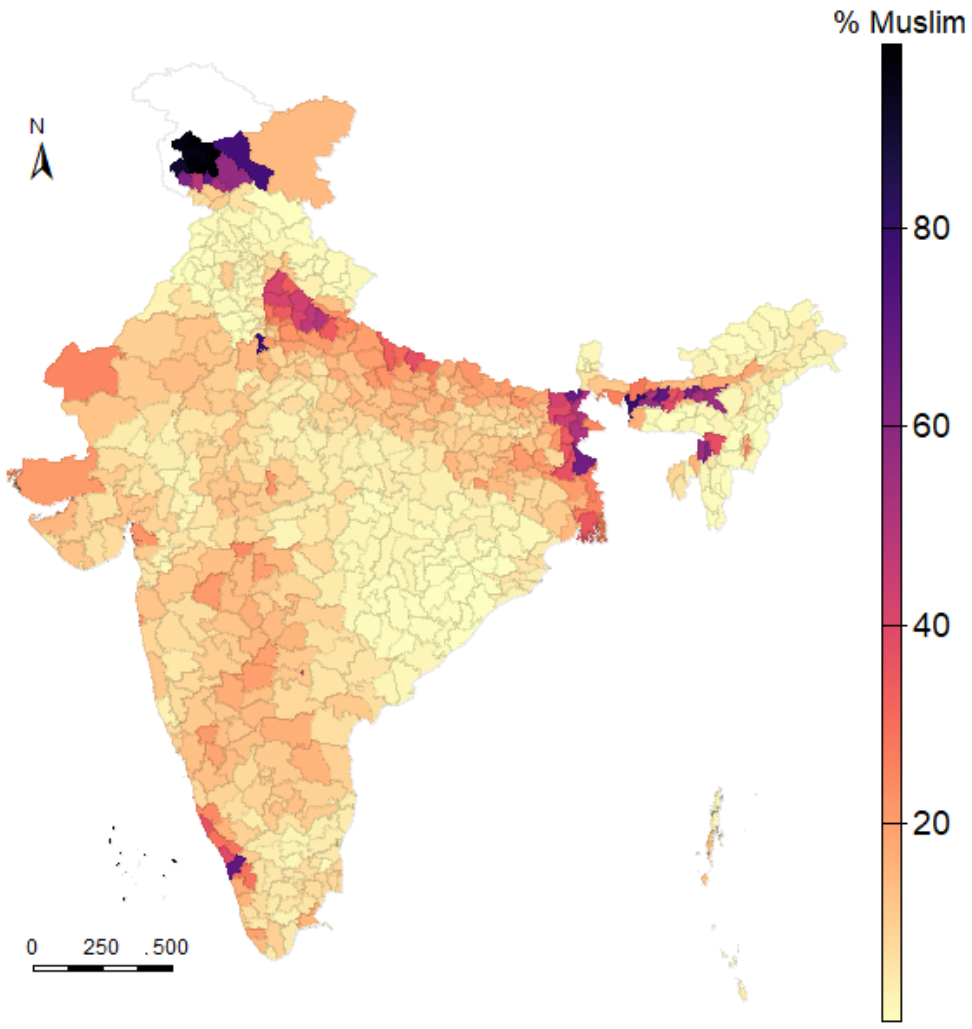
x	Estimate (US $ (in millions))
1	-15
2	-8
3	-5
4	-4
5	-3

Notes: See Section B for details about the Quantification estimates.

Given the assumed values of x, the back-of-the-envelope estimation suggests lost daily wages between $3 and $15 million, with the latter being a preferred estimate when the rate at which an additional minute of sleep affects hourly wage is 1, i.e. when each additional minute of sleep exerts the same influence on an hourly wage.

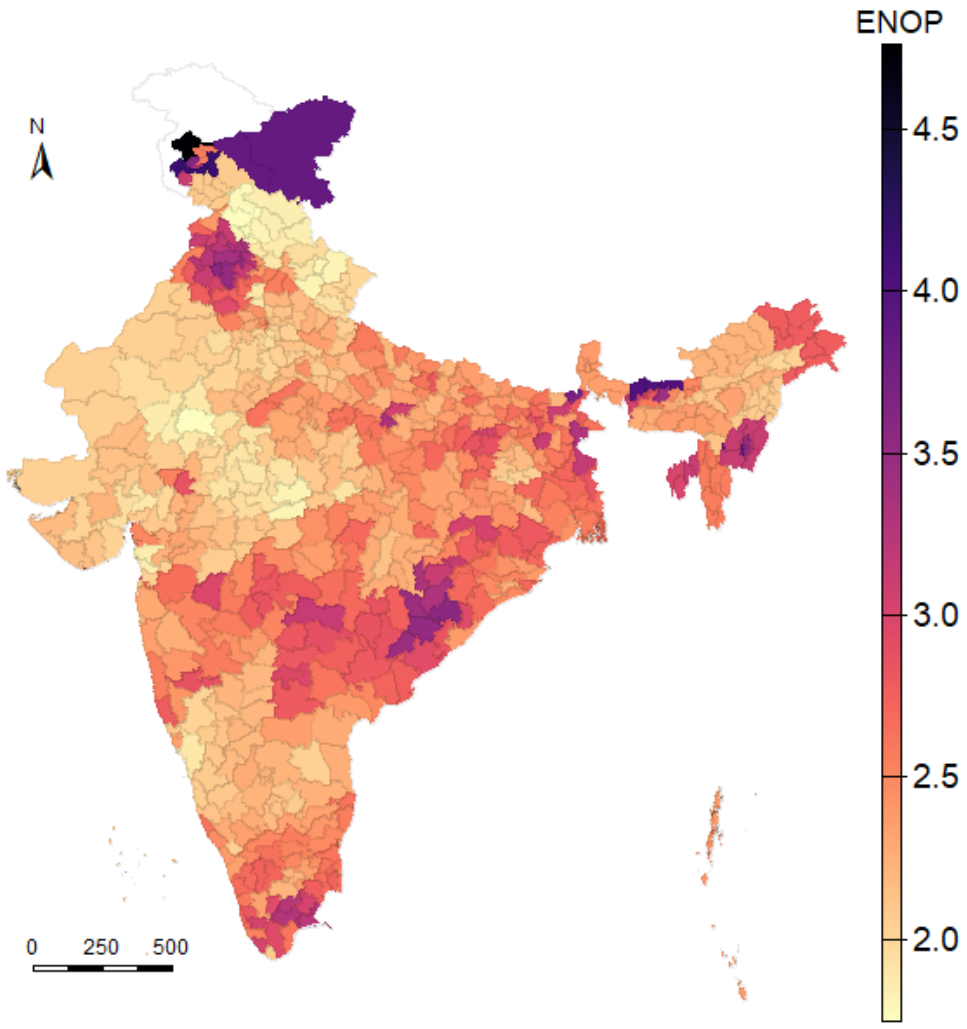
Appendix C Figures and Tables

Figure C1: Muslim Population at the District-level



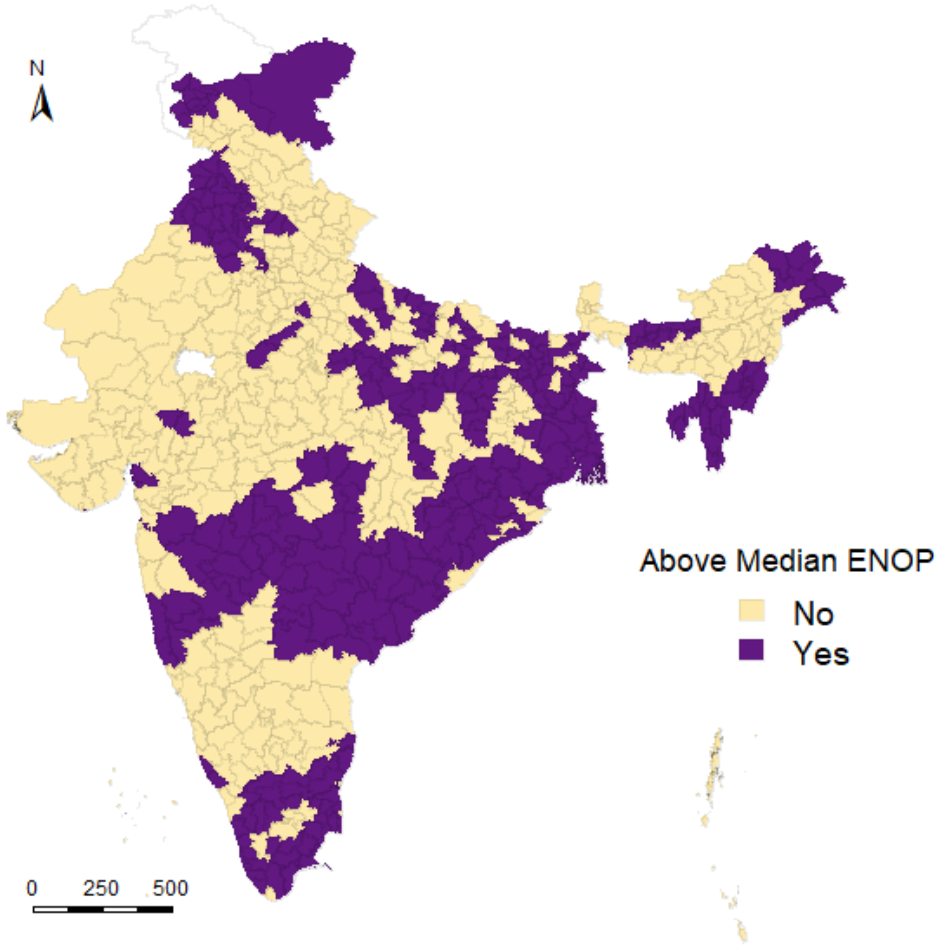
Notes: The district polygons are derived from the 2011 Census of India. Data on population is derived from the 2011 Census of India's Table C-01.

Figure C2: Effective Number of Parties at the District-level



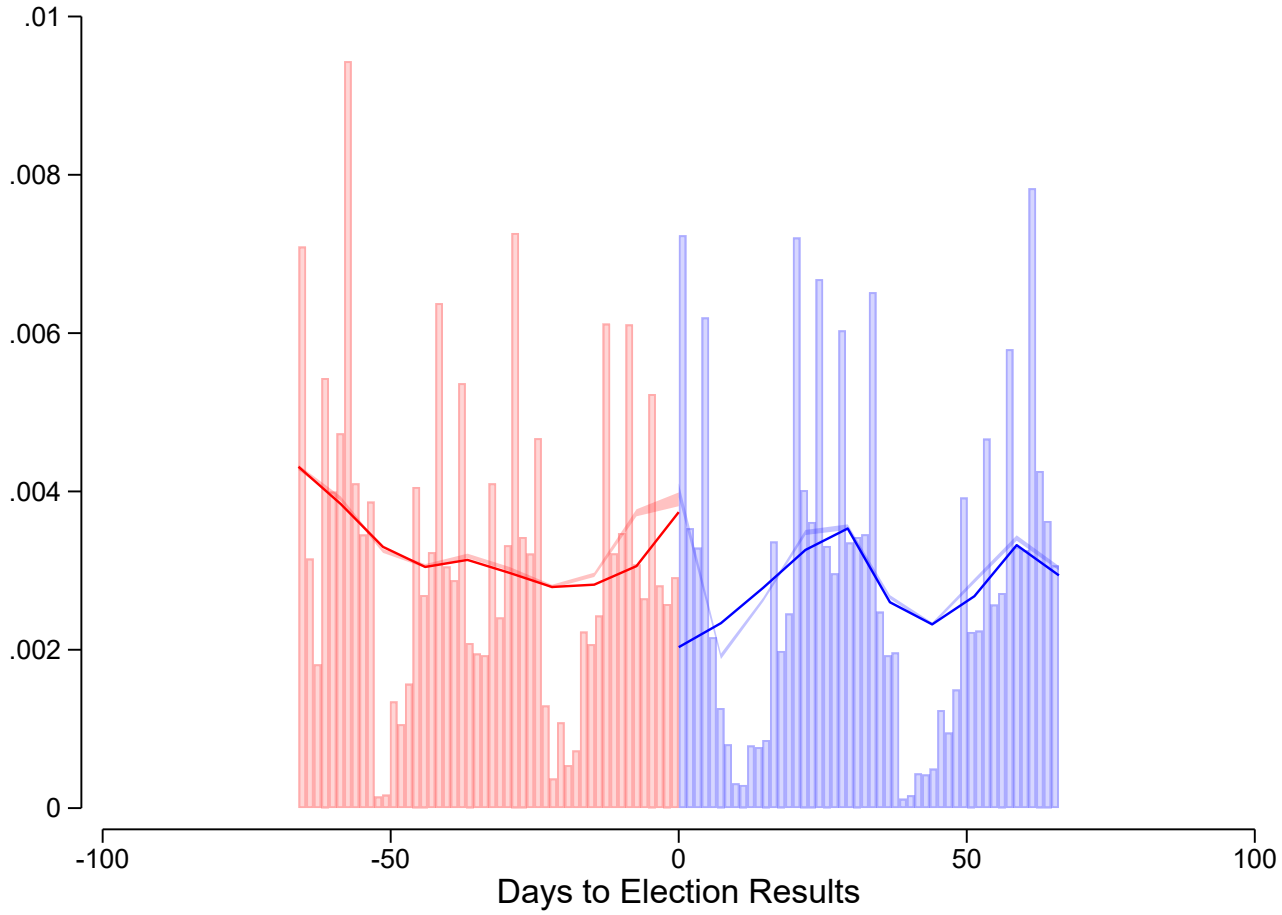
Notes: The district polygons are derived from the 2011 Census of India. The district-level effective number of parties (ENOP) is constructed using the ENOP for each parliamentary constituency in the district and using their arithmetic mean. ENOP for parliamentary constituencies is constructed using 2019 Lok Sabha election results derived from Bhogale et al. (2019).

Figure C3: Dichotomized Effective Number of Parties



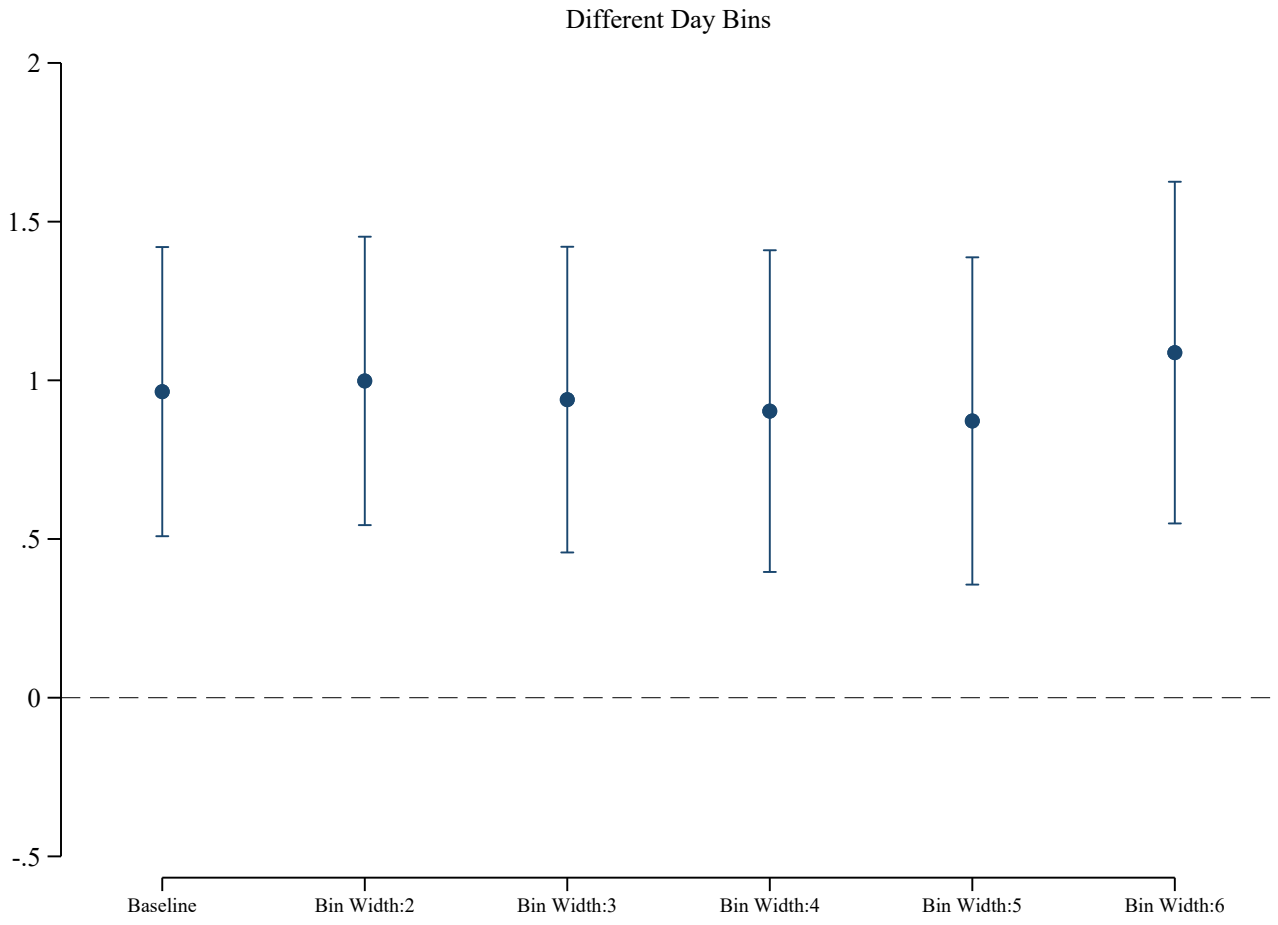
Notes: Notes: The district polygons are derived from the 2011 Census of India. The district-level effective number of parties (ENOP) is constructed using the ENOP for each parliamentary constituency in the district and using their arithmetic mean. ENOP for parliamentary constituencies is constructed using 2019 Lok Sabha election results derived from Bhogale et al. (2019). The 2019 Lok Sabha election results' effective number of parties (ENOP) is used to determine the median.

Figure C4: Distribution of Running Variable



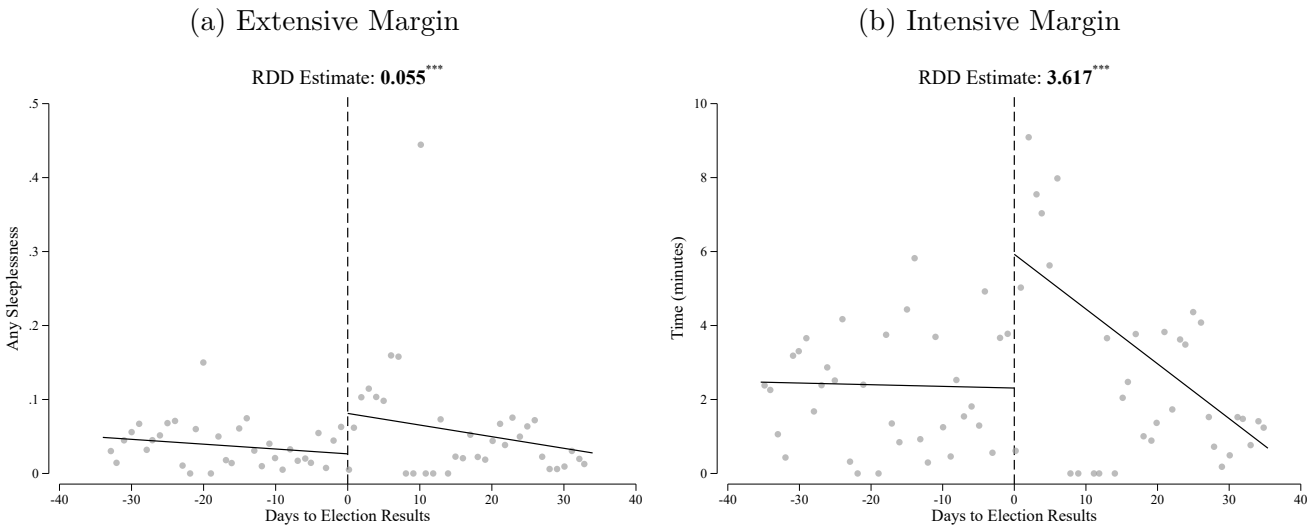
Notes: The data comes from the India Time-Use Survey (ITUS) 2019. The optimal bandwidth used for density estimators is 22.00. Default options, as documented in Cattaneo et al. (2018) and Cattaneo et al. (2022), are used except for the local polynomial order, which is one. Daily bins; the first bin after the value 0 refers to May 23, 2019. Solid lines are density estimates, and 95% confidence intervals are bands.

Figure C5: Aggregating Daily Bins



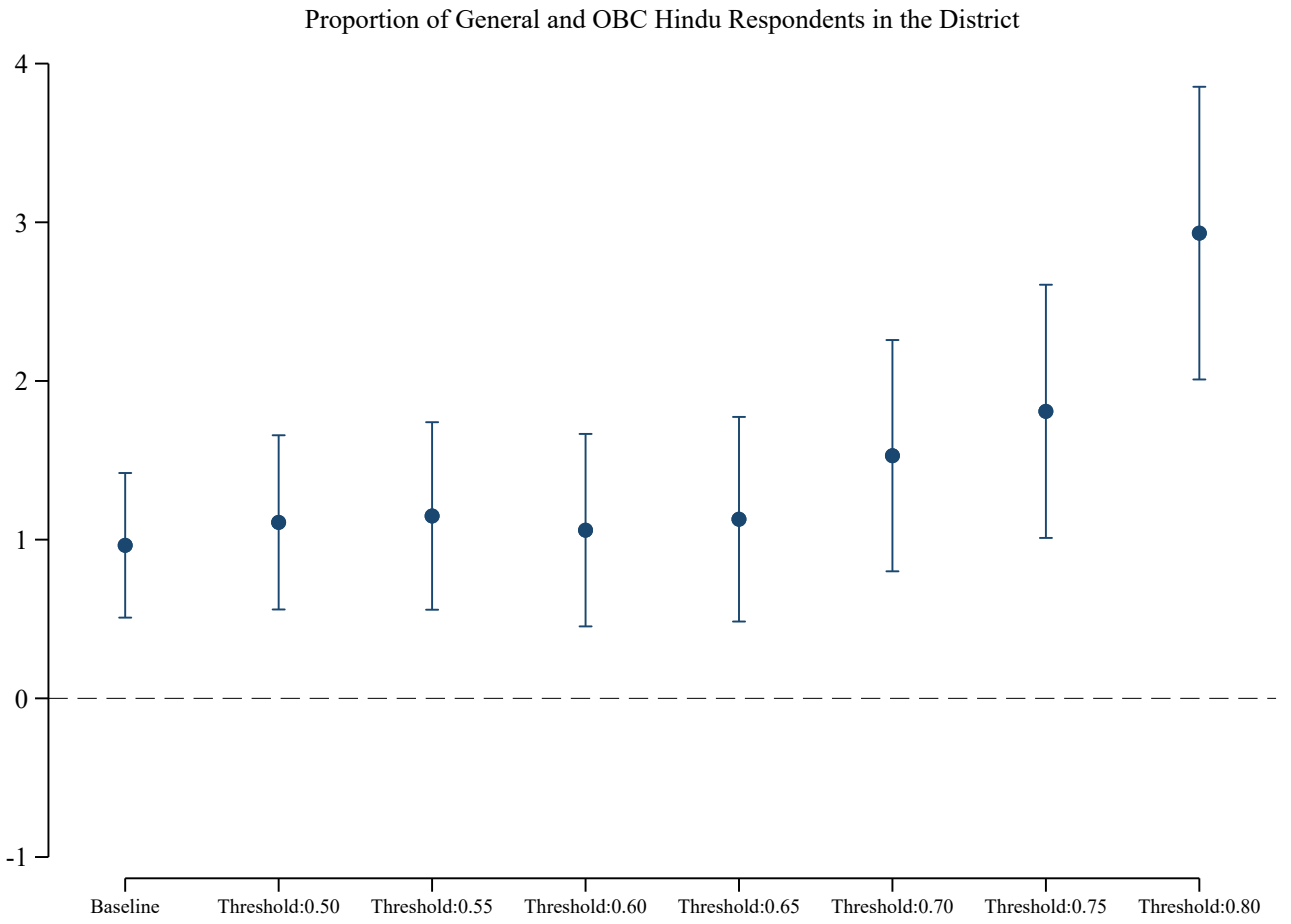
Notes: The data comes from the India Time-Use Survey (ITUS) 2019. The dependent variable is sleeplessness time (in minutes) for minorities. Estimates from the estimator in Calonico et al. (2017) with default options are reported. 95% confidence intervals constructed using bias-corrected standard errors are reported. The bin width on the horizontal axis is the number of days used for bin construction.

Figure C6: Non-fasting Muslims during Ramadan



Notes: Authors' calculations. The data comes from the India Time-Use Survey (ITUS) 2019. The dependent variable on the vertical axis in Panel (a) indicates whether any time is spent experiencing sleeplessness. The dependent variable on the vertical axis in Panel (b) indicates sleeplessness time (in minutes). The analytical sample is restricted to Muslims with some food consumption between 6:30 and 17:30. The polynomial order for conditional expectations functions on either side of the cutoff is one. A triangular kernel is used for local polynomial estimation. The optimal bandwidth is calculated using default settings of Calonico et al. (2017). Daily bins; the first bin after the value 0 refers to May 23, 2019.

Figure C7: Heterogeneity by Proportion of either "General" or "OBC" Castes Hindus in the District



Notes: The data comes from the India Time-Use Survey (ITUS) 2019. The dependent variable is sleeplessness time (in minutes) for minorities. Estimates from the estimator in Calonico et al. (2017) with default options are reported. 95% confidence intervals constructed using bias-corrected standard errors are reported. The threshold on the horizontal axis refers to the threshold used for determining the districts that constitute the analytical sample. The respondents who report their religion to be Hinduism are used for district selection. The caste category is from the self-reported information in ITUS.

Table C1: Summary Statistics

	Mean	SD	Min	Max
Age (in years)	34.317	18.024	6.00	116.00
Usual Monthly Consumption Expenditure (10,000 Rupees)	1.014	0.783	0.00	30.12
Sleeplessness Time (minutes)	2.396	13.563	0.00	120.00
Any Sleeplessness	0.041	0.199	0.00	1.00
Sex				
Male	0.508	0.500	0.00	1.00
Female	0.492	0.500	0.00	1.00
Religion				
Follow Hinduism	0.814	0.389	0.00	1.00
Follow Islam	0.129	0.335	0.00	1.00
Follow Christianity	0.027	0.161	0.00	1.00
All Minority Religion Follower	0.186	0.389	0.00	1.00
Highest Education Level				
Illiterate	0.222	0.416	0.00	1.00
Primary School	0.440	0.496	0.00	1.00
Secondary School or above	0.338	0.473	0.00	1.00
Usual Principal Activity				
Self-Employed	0.197	0.398	0.00	1.00
Salaried/Regular Wage	0.099	0.298	0.00	1.00
Casual Wage Labor	0.125	0.331	0.00	1.00
Domestic Duties	0.269	0.443	0.00	1.00
In School or College	0.237	0.425	0.00	1.00
Unemployed or Not in Labor Force	0.073	0.260	0.00	1.00
Caste				
Upper Caste	0.280	0.449	0.00	1.00
Not Upper Caste	0.720	0.449	0.00	1.00
Region				
North	0.385	0.487	0.00	1.00
West	0.143	0.350	0.00	1.00
South	0.212	0.409	0.00	1.00
East	0.260	0.438	0.00	1.00
Rural-Urban Status				
Urban	0.303	0.459	0.00	1.00
Rural	0.697	0.459	0.00	1.00

Notes: The sample contains data from the India Time-Use Survey 2019. The number of observations in each row is 442,607. Survey weights are used to account for complex survey design.

Table C2: Effect of Election Results on Sleeplessness – Validity Check

Variable	Optimal	RD	Robust Inference		Number of	Dep. Var.	Dep. Var.
	Bandwidth	Estimator	p-value	95% CI	Observations	Mean	SD
Male	23.13	0.002	0.87	[-0.03, 0.04]	13,367	0.51	0.50
Age	19.88	-0.214	0.72	[-1.61, 1.10]	11,117	32.88	17.56
Household Size	17.06	0.093	0.24	[-0.07, 0.27]	10,297	4.71	1.97
Upper Caste	18.23	-0.005	0.86	[-0.04, 0.03]	10,691	0.33	0.47
Usual Monthly Cons. Exp.	20.80	-331.809	0.31	[-1045.39, 331.51]	11,707	11562.88	7644.40
Education							
Illiterate	26.66	-0.020	0.16	[-0.05, 0.01]	15,657	0.18	0.39
Primary School	15.92	0.018	0.29	[-0.02, 0.06]	9,532	0.29	0.45
Secondary School or College	20.87	0.005	0.84	[-0.03, 0.04]	11,707	0.35	0.48
Usual Principal Activity							
Self-Employed	14.75	-0.027	0.10	[-0.06, 0.01]	9,113	0.20	0.40
Salaried/Regular Wage	15.95	-0.002	0.95	[-0.03, 0.02]	9,532	0.10	0.30
Domestic Duties	25.98	0.023	0.13	[-0.01, 0.05]	14,825	0.28	0.45
Casual Wage Labor	15.12	0.009	0.41	[-0.01, 0.04]	9,532	0.10	0.29
In School or College	18.52	0.021	0.21	[-0.01, 0.06]	10,691	0.26	0.44

Notes: Each row corresponds to a different dependent variable. Rows indicate the dependent variable. In each row, the sample is restricted to respondents who do not report their religion as Hinduism. The bandwidth is selected to be coverage-error optimal (Cattaneo et al., 2020b). The sample contains data from the India Time-Use Survey (ITUS) 2019.

Table C3: Number of Interviews in the District

Sample	Optimal	RD	Robust Inference		Number of	Dep. Var.	Dep. Var.
	Bandwidth	Estimator	p-value	95% CI	Observations	Mean	SD
All Religions	18.31	0.071	0.61	[-0.61, 1.04]	4,932	9.46	6.79
Hindus Only	23.01	-0.261	0.72	[-0.89, 0.61]	5,354	8.40	6.08
All Minorities	24.79	0.177	0.47	[-0.49, 1.06]	2,341	6.24	4.94
Muslims Only	31.12	0.547	0.14	[-0.22, 1.55]	1,994	5.86	4.03

Notes: Each row corresponds to a different sample. Rows indicate the estimating sample. The dependent variable in all rows is the number of interviews conducted in the district. The sample contains data from the India Time-Use Survey (ITUS) 2019.

Table C4: Effect of Election Results on Sleeplessness – Alternate Cutoffs

Cutoff	Optimal Bandwidth	RD Estimator	Robust Inference		Number of Observations	Dep. Var. Mean	Dep. Var. SD
			p-value	95% CI			
Panel A: Sleeplessness Extensive Margin							
Cutoff = -6	15.44	-0.002	0.91	[-0.01, 0.01]	6,515	0.02	0.14
Cutoff = -5	15.69	0.002	0.77	[-0.01, 0.01]	6,441	0.02	0.14
Cutoff = 0	34.22	0.024	0.00	[0.01, 0.04]	22,010	0.02	0.15
Cutoff = 5	16.89	-0.017	0.25	[-0.02, 0.09]	5,034	0.02	0.13
Cutoff = 6	21.82	-0.032	0.95	[-0.05, 0.05]	7,646	0.02	0.13
Panel B: Sleeplessness Intensive Margin							
Cutoff = -6	15.92	-0.043	0.81	[-0.54, 0.43]	6,515	0.81	6.14
Cutoff = -5	15.70	0.139	0.80	[-0.45, 0.59]	6,441	0.81	6.14
Cutoff = 0	40.99	0.917	0.00	[0.42, 1.51]	24,812	1.13	8.10
Cutoff = 5	19.22	-0.542	0.58	[-1.61, 2.89]	6,413	0.67	5.38
Cutoff = 6	24.40	-1.257	0.47	[-2.83, 1.30]	8,863	0.67	5.38

Notes: Each row corresponds to a different cutoff. Rows indicate the cutoff. In each row, the sample is restricted to respondents who do not report their religion as Hinduism. The sample contains data from the India Time-Use Survey (ITUS) 2019. In Panel A, the dependent variable in all rows is an indicator variable for whether any time is spent experiencing sleeplessness. In Panel B, the dependent variable is the time spent experiencing sleeplessness in minutes. Sleeplessness activity is discussed in Section 3. For each alternate cutoff, observations on the opposite side of the running variable value corresponding to the actual cutoff are dropped. Thus, for all alternate cutoffs where the running variable takes negative values, all observations with the positive value of the running variable are dropped from the analytical sample and vice versa.

Table C5: Effect of Election Results on Sleeplessness – Donut-Hole Approach

Donut-Hole Radius	Optimal Bandwidth	RD Estimator	Robust Inference p-value	Robust Inference 95% CI	Number of Observations	Dep. Var. Mean	Dep. Var. SD
Panel A: Sleeplessness Extensive Margin							
Baseline	34.22	0.024	0.00	[0.01, 0.04]	22,010	0.02	0.15
1	25.40	0.038	0.00	[0.02, 0.06]	13,360	0.02	0.15
2	21.03	0.055	0.00	[0.04, 0.08]	10,039	0.02	0.15
3	19.64	0.059	0.00	[0.04, 0.09]	8,170	0.02	0.15
4	16.54	0.084	0.00	[0.05, 0.13]	6,247	0.02	0.15
5	17.24	0.074	0.00	[0.03, 0.13]	6,031	0.02	0.15
Panel B: Sleeplessness Intensive Margin							
Baseline	40.99	0.917	0.00	[0.42, 1.51]	24,812	1.13	8.10
1	30.08	1.432	0.00	[0.68, 2.27]	17,671	1.12	8.08
2	24.92	1.806	0.00	[1.03, 2.85]	11,841	1.11	8.03
3	22.76	2.132	0.00	[1.13, 3.47]	9,828	1.12	8.03
4	18.93	3.408	0.00	[1.97, 5.36]	7,078	1.12	8.03
5	20.41	2.564	0.01	[0.72, 4.76]	7,429	1.12	8.06

Notes: Each row corresponds to a different interval around the cutoff from which the observations are excluded. Rows indicate the interval. In each row, the sample is restricted to respondents who do not report their religion as Hinduism. The sample contains data from the India Time-Use Survey (ITUS) 2019. In Panel A, the dependent variable in all rows is an indicator variable for whether any time is spent experiencing sleeplessness. In Panel B, the dependent variable is the time spent experiencing sleeplessness in minutes. Sleeplessness activity is discussed in Section 3.

Table C6: Alternate Bandwidths

Bandwidth	Optimal Bandwidth	RD Estimator	Robust Inference p-value	Robust Inference 95% CI	Number of Observations	Dep. Var. Mean	Dep. Var. SD
Panel A: Sleeplessness Extensive Margin							
h_{MSE}	34.22	0.024	0.00	[0.01, 0.04]	22,010	0.02	0.15
$2h_{MSE}$	68.43	0.018	0.00	[0.02, 0.04]	43,735	0.02	0.15
h_{CER}	19.27	0.012	0.02	[-0.04, -0.00]	10,908	0.02	0.15
$2h_{CER}$	38.55	0.025	0.05	[-0.00, 0.02]	24,014	0.02	0.15
Panel B: Sleeplessness Intensive Margin							
h_{MSE}	40.99	0.917	0.00	[0.42, 1.51]	24,812	1.13	8.10
$2h_{MSE}$	81.98	0.533	0.00	[0.62, 1.58]	50,257	1.13	8.10
h_{CER}	23.09	0.371	0.12	[-1.75, 0.21]	13,138	1.13	8.10
$2h_{CER}$	46.18	0.937	0.11	[-0.12, 1.17]	27,743	1.13	8.10

Notes: Each row corresponds to a different bandwidth. Rows indicate the bandwidth. h_{MSE} and h_{CER} refer to MSE and CER optimal bandwidths (Cattaneo et al., 2020b). In each row, the sample is restricted to respondents who do not report their religion as Hinduism. The sample contains data from the India Time-Use Survey (ITUS) 2019. In Panel A, the dependent variable in all rows is an indicator variable for whether any time is spent experiencing sleeplessness. In Panel B, the dependent variable is the time spent experiencing sleeplessness in minutes. Sleeplessness activity is discussed in Section 3.

Table C7: Effect of Election Results on Sleeplessness – Robustness Tests

Sample	Optimal	RD	Robust Inference		Number of	Dep. Var.	Dep. Var.
	Bandwidth	Estimator	p-value	95% CI	Observations	Mean	SD
Panel A: Sleeplessness Extensive Margin							
Baseline	34.22	0.024	0.00	[0.01, 0.04]	22,010	0.02	0.15
HH Without Infants	34.62	0.025	0.00	[0.01, 0.04]	21,309	0.02	0.15
States Without Elections	34.19	0.028	0.00	[0.02, 0.04]	20,142	0.02	0.15
Normal Day Only	32.76	0.028	0.00	[0.02, 0.04]	17,676	0.02	0.15
Weekdays Only	36.83	0.018	0.00	[0.01, 0.03]	14,653	0.02	0.15
Include Covariates	32.56	0.020	0.00	[0.01, 0.03]	20,459	0.02	0.15
Aggregate Data	39.31	0.019	0.01	[0.01, 0.04]	79	0.02	0.03
Only Major Activity	36.84	0.031	0.00	[0.02, 0.04]	23,190	0.03	0.16
Include Outlier Obs.	36.28	0.033	0.00	[0.02, 0.05]	23,384	0.04	0.18
Remove Ramadan Begin and End	34.36	0.024	0.00	[0.01, 0.04]	21,912	0.02	0.15
Panel B: Sleeplessness Intensive Margin							
Baseline	40.99	0.917	0.00	[0.42, 1.51]	24,812	1.13	8.10
HH Without Infants	39.61	0.905	0.00	[0.45, 1.53]	23,632	1.12	8.07
States Without Elections	38.68	1.039	0.00	[0.52, 1.68]	21,993	1.10	8.02
Normal Day Only	36.98	0.959	0.00	[0.29, 1.57]	20,016	1.15	8.22
Weekdays Only	42.48	0.730	0.03	[0.06, 1.50]	16,204	1.14	8.15
Include Covariates	37.07	0.720	0.00	[0.29, 1.36]	23,553	1.13	8.10
Aggregate Data	41.69	0.639	0.02	[0.11, 1.37]	83	1.16	1.15
Only Major Activity	34.90	1.761	0.00	[0.73, 2.62]	22,151	1.73	11.95
Include Outlier Obs.	49.27	1.923	0.01	[0.49, 3.69]	29,471	3.17	21.74
Remove Ramadan Begin and End	40.96	0.926	0.00	[0.44, 1.52]	24,714	1.13	8.09

Notes: Each row corresponds to a different sample. Rows indicate the estimating sample. In each row, the sample is restricted to respondents who do not report their religion as Hinduism. The sample contains data from the India Time-Use Survey (ITUS) 2019. In Panel A, the dependent variable in all rows is an indicator variable for whether any time is spent experiencing sleeplessness. In Panel B, the dependent variable is the time spent experiencing sleeplessness in minutes. Sleeplessness activity is discussed in Section 3. The second row drops households who have any members less than one year of age at the time of the survey. The third row drops states where state legislative assembly elections are held concurrently with the Lok Sabha elections. The fourth row drops all days which are reported as in the ITUS. The fifth row drops respondents who are interviewed either on Saturday or Sunday. The sixth row includes individual, household, and weather controls. Individual controls include age, sex, highest education level, and usual principal activity status. Household controls include number of members in the household, whether a household is an upper caste or not, usual monthly consumption expenditure, and whether the household uses a clean fuel as a primary source of energy for cooking. Weather controls include temperature and precipitation. The seventh row aggregates data for each day of the interview using arithmetic mean. The eighth row assigns all the time within each 30-minute interval to the activity reported by the respondent. The ninth row includes observations that are above the 99th percentile of the sample distribution. The tenth row drops observations at the Ramadan beginning and end, i.e., May 5th and June 3rd, 2019.

Table C8: Heterogeneity by Activity Type

Variable	Optimal Bandwidth	RD Estimator	Robust Inference p-value	Robust Inference 95% CI	Number of Observations	Dep. Var. Mean	Dep. Var. SD
Panel A: Sleeplessness Extensive Margin							
Baseline	34.22	0.024	0.00	[0.01, 0.04]	22,010	0.02	0.15
Employment and related activities	35.33	-0.003	0.97	[-0.03, 0.03]	22,563	0.46	0.50
Unpaid Care	43.72	-0.019	0.28	[-0.04, 0.01]	26,287	0.60	0.49
Outdoor Activity	27.13	-0.028	0.14	[-0.06, 0.01]	16,191	0.74	0.44
Panel B: Sleeplessness Intensive Margin							
Baseline	40.99	0.917	0.00	[0.42, 1.51]	24,812	1.01	7.56
Employment and related activities	31.96	11.794	0.12	[-3.41, 28.63]	19,666	175.77	232.37
Unpaid Care	53.95	-6.345	0.16	[-17.93, 3.04]	30,687	161.47	198.61
Leisure, Learning, Self-care, and Socializing	32.27	-6.759	0.33	[-24.86, 8.44]	20,459	1102.76	247.87
Outdoor Activity	41.27	-10.893	0.05	[-18.86, -0.04]	25,287	123.67	162.08

Notes: Each row corresponds to a different dependent variable. Rows indicate the dependent variable. Time spent on various activities is in minutes. In each row, the sample is restricted to respondents who do not report their religion as Hinduism. The sample contains data from the India Time-Use Survey (ITUS) 2019. In Panel A, the dependent variable in all rows is an indicator variable for whether any time is spent experiencing sleeplessness. In Panel B, the dependent variable is the time spent experiencing sleeplessness in minutes. Sleeplessness activity is discussed in Section 3. Due to computational complexities involved in determination of bandwidths for the extensive margin of leisure, learning, self-care, and socializing activities, we do not report estimates for these activities.

Table C9: Heterogeneity: Sleeplessness Extensive Margin

Sample	Optimal	RD	Robust Inference		Number of	Dep. Var.	Dep. Var.
	Bandwidth	Estimator	p-value	95% CI	Observations	Mean	SD
Baseline	34.22	0.024	0.00	[0.01, 0.04]	22,010	0.02	0.15
Sex							
Male	33.03	0.030	0.00	[0.02, 0.05]	10,780	0.02	0.15
Female	39.65	0.019	0.01	[0.01, 0.03]	12,008	0.02	0.15
Age							
Age $<$ 18	36.11	0.030	0.00	[0.01, 0.06]	4,968	0.02	0.13
18 $\leq$ Age $\leq$ 35	36.51	0.031	0.00	[0.02, 0.05]	9,129	0.02	0.14
36 $\leq$ Age $\leq$ 60	33.29	0.021	0.02	[0.00, 0.04]	6,638	0.02	0.16
Age $\geq$ 61	50.34	-0.003	0.81	[-0.05, 0.04]	2,249	0.04	0.20
Highest Education Level							
Illiterate	48.54	0.021	0.06	[-0.00, 0.05]	5,485	0.03	0.18
Primary School	32.42	0.035	0.00	[0.02, 0.05]	9,667	0.02	0.15
Secondary School and Above	48.27	0.015	0.02	[0.00, 0.03]	9,646	0.02	0.14
Usual Principal Activity							
Self-Employed	39.11	0.043	0.00	[0.03, 0.07]	5,107	0.02	0.15
Salaried/Regular Wage	44.59	0.014	0.24	[-0.01, 0.04]	2,645	0.01	0.11
Casual Wage Labor	29.95	0.041	0.02	[0.01, 0.08]	1,736	0.03	0.17
Domestic Duties	39.34	0.021	0.03	[0.00, 0.04]	6,557	0.03	0.16
In School or College	37.89	0.024	0.01	[0.01, 0.05]	5,979	0.02	0.14
Usual Monthly Consumption Expenditure							
First Quartile	29.71	-0.001	0.91	[-0.02, 0.02]	4,589	0.03	0.16
Second Quartile	36.89	0.044	0.00	[0.02, 0.07]	5,598	0.03	0.16
Third Quartile	32.52	0.017	0.10	[-0.00, 0.04]	4,903	0.02	0.15
Fourth Quartile	36.95	0.036	0.00	[0.02, 0.06]	5,919	0.02	0.14
Region							
North	33.55	0.058	0.00	[0.04, 0.08]	6,675	0.03	0.18
West	43.53	0.051	0.00	[0.02, 0.09]	2,980	0.04	0.20
South	39.46	-0.005	0.76	[-0.03, 0.02]	3,682	0.02	0.14
East	29.66	0.004	0.56	[-0.01, 0.02]	7,170	0.01	0.11
Rural-Urban Status							
Urban	34.50	0.034	0.00	[0.02, 0.05]	9,598	0.02	0.16
Rural	18.41	-0.001	0.62	[-0.02, 0.01]	5,530	0.02	0.15
Political Climate							
BJP Ruled States Only	29.20	0.037	0.00	[0.02, 0.06]	9,770	0.02	0.15
Non-BJP Ruled States Only	38.26	0.011	0.09	[-0.00, 0.03]	10,694	0.02	0.15
Electorally Competitive District	31.12	0.026	0.00	[0.01, 0.04]	9,640	0.02	0.15
Not Electorally Competitive District	37.23	0.025	0.00	[0.01, 0.04]	12,005	0.02	0.15
Muslim Population Density							
Above Median Muslim Percentage District	34.13	0.038	0.00	[0.03, 0.05]	13,609	0.03	0.16
Below Median Muslim Percentage District	37.10	-0.002	0.58	[-0.02, 0.01]	8,872	0.02	0.13
Hindu-Muslim Riots							
Hindu-Muslim Riot District	33.02	0.048	0.00	[0.03, 0.07]	7,685	0.03	0.18
Non-Hindu-Muslim Riot District	48.04	0.009	0.02	[0.00, 0.02]	18,588	0.02	0.14

Notes: Each row corresponds to a different sample. Rows indicate the estimating sample. In each row, the sample is restricted to respondents who do not report their religion as Hinduism. The optimal bandwidth is calculated using default settings of Calonico et al. (2017). The sample contains data from the India Time-Use Survey (ITUS) 2019.

Table C10: Heterogeneity: Sleeplessness Intensive Margin

Sample	Optimal	RD	Robust Inference		Number of	Dep. Var.	Dep. Var.
	Bandwidth	Estimator	p-value	95% CI	Observations	Mean	SD
Baseline	40.99	0.917	0.00	[0.42, 1.51]	24,812	1.13	8.10
Sex							
Male	40.24	1.134	0.00	[0.51, 1.98]	12,598	0.99	7.42
Female	42.16	0.703	0.04	[0.04, 1.56]	12,688	1.27	8.75
Age							
Age $<$ 18	41.40	1.238	0.02	[0.24, 2.60]	5,445	0.87	7.07
18 $\leq$ Age $\leq$ 35	43.14	1.298	0.00	[0.62, 2.16]	10,437	1.05	7.91
36 $\leq$ Age $\leq$ 60	38.67	0.742	0.08	[-0.09, 1.67]	7,455	1.15	8.00
Age $\geq$ 61	36.93	-1.029	0.38	[-4.43, 1.69]	1,782	2.21	11.58
Highest Education Level							
Illiterate	45.35	0.098	0.94	[-1.37, 1.48]	5,240	1.72	10.13
Primary School	34.52	1.553	0.00	[0.74, 2.37]	10,419	1.09	7.87
Secondary School and Above	50.25	0.596	0.12	[-0.18, 1.50]	9,944	0.88	7.16
Usual Principal Activity							
Self-Employed	42.33	1.653	0.00	[0.88, 2.66]	5,395	0.98	7.27
Salaried/Regular Wage	51.85	0.616	0.29	[-0.65, 2.16]	2,912	0.56	5.47
Casual Wage Labor	31.62	1.816	0.03	[0.17, 3.92]	1,933	1.32	8.55
Domestic Duties	42.56	0.843	0.10	[-0.17, 2.06]	6,939	1.45	9.51
In School or College	42.38	0.816	0.05	[-0.02, 1.93]	6,526	0.87	6.93
Usual Monthly Consumption Expenditure							
First Quartile	33.08	-0.148	0.77	[-0.90, 0.67]	5,494	1.25	8.54
Second Quartile	18.97	-0.774	0.34	[-3.39, 1.18]	2,479	1.24	8.57
Third Quartile	38.34	1.240	0.02	[0.18, 2.56]	5,793	0.99	7.40
Fourth Quartile	41.58	1.243	0.01	[0.41, 2.41]	6,593	1.04	7.87
Region							
North	32.20	2.386	0.00	[1.45, 3.73]	6,412	1.51	9.29
West	43.18	3.856	0.00	[1.81, 6.39]	2,980	2.11	11.05
South	38.21	-1.318	0.04	[-2.97, -0.04]	3,665	0.88	6.75
East	23.87	-0.618	0.22	[-1.69, 0.39]	5,428	0.71	6.63
Rural-Urban Status							
Urban	23.79	0.686	0.43	[-0.78, 1.83]	6,169	1.19	8.31
Rural	19.20	-0.121	0.50	[-0.98, 0.48]	5,755	1.08	7.93
Political Climate							
BJP Ruled States Only	42.39	1.647	0.00	[0.81, 2.58]	14,369	1.18	8.40
Non-BJP Ruled States Only	37.04	0.338	0.30	[-0.31, 0.98]	10,491	1.06	7.67
Electorally Competitive District	39.06	1.117	0.00	[0.50, 1.96]	12,067	1.05	7.55
Not Electorally Competitive District	41.55	0.736	0.11	[-0.15, 1.48]	12,736	1.21	8.62
Muslim Population Density							
Above Median Muslim Percentage District	39.94	1.609	0.00	[0.86, 2.45]	15,092	1.31	8.68
Below Median Muslim Percentage District	29.95	-0.501	0.10	[-1.38, 0.12]	6,680	0.84	7.10
Hindu-Muslim Riots							
Hindu-Muslim Riot District	39.56	1.732	0.00	[0.82, 3.08]	8,812	1.56	9.53
Non-Hindu-Muslim Riot District	41.60	0.148	0.54	[-0.31, 0.59]	16,237	0.90	7.25

Notes: Each row corresponds to a different sample. Rows indicate the estimating sample. In each row, the sample is restricted to respondents who do not report their religion as Hinduism. The optimal bandwidth is calculated using default settings of Calonico et al. (2017). The sample contains data from the India Time-Use Survey (ITUS) 2019.