

Sleeping giant: *A research agenda for politics and chronobiology*

Aleksander Ksiazkiewicz , *University of Illinois at Urbana-Champaign, USA*

ABSTRACT. Sleep research presents an important frontier of discovery for political science. While sleep has largely been neglected by political scientists, human psychology is inextricably linked with sleep and so political cognition must be as well. Existing work shows that sleep is linked to political participation and ideology, and that contentious politics can disrupt sleep. I propose three directions for future research—on participatory democracy, on ideology, and on how context shapes sleep-politics links. I also note that sleep research intersects with the study of political institutions, of war and conflict, of elite decision-making, and of normative theory. In short, political scientists across subfields can and should consider whether and how sleep influences political life in their area of expertise and how to influence relevant policies. This new research agenda will enrich our theories of politics and enable us to identify pressing areas for policy interventions to revitalize our democracy.

Key words: sleep, health, political participation, political ideology, comparative politics

Introduction

Sleep is essential to human life, but it has been largely overlooked in studying political phenomena. Sleep research presents an important frontier of discovery for political science. This nascent area is already producing illuminating findings. Inadequate sleep lowers turnout (Holbein et al., 2019; Potoski & Urbatsch, 2017; Schafer & Holbein, 2020; Urbatsch, 2014, 2017), as does excessive sleep (Ksiazkiewicz & Erol, 2022). Contentious political events, like the Brexit vote and the Donald Trump's election, cause people to sleep less (Anýž et al., 2019). Conservatives are more likely to be larks (early to bed, early to rise) than night owls (Ksiazkiewicz, 2020), and they are also more likely than liberals to value morning more than night (Ksiazkiewicz, 2021). The links between sleep and politics that have been identified so far are consequential; many more are waiting to be discovered.

doi: [10.1017/pls.2022.16](https://doi.org/10.1017/pls.2022.16)

Correspondence: Department of Political Science, University of Illinois at Urbana-Champaign, 420 David Kinley Hall, 1407 W Gregory Dr., Urbana, IL 61801, USA. Email: aleksks@illinois.edu

While sleep has largely been neglected by political scientists, human psychology is inextricably linked with sleep and so political cognition must be as well. Adequate sleep is linked to prosociality (Dickinson & McElroy, 2017), health (Fabbian et al., 2016), and educational attainment (Dewald et al., 2010), all outcomes with important political implications. Chronotype has been linked to politically meaningful psychological traits, such as the Big Five (Lipnevich et al., 2017) and the Dark Triad (Jonason et al., 2013), and with demographic characteristics, such as urban-rural residence (Carvalho et al., 2014), age, and sex (Fischer et al., 2017). Inadequate sleep is linked to cognitive burdens (Killgore, 2010; Vaseghi et al., 2021); cognitive load affects ideological cognition (Eidelman et al., 2012), decision-making (Deck & Jahedi, 2015), especially as complexity increases (Allred et al., 2016), candidate evaluation (Nawara & Bailey, 2021), and the processing of news information (Van Cauwenberge et al., 2014). Sleep deficits also disrupt emotion regulation (Palmer & Alfano, 2017), which may make politics more stressful (Ford & Feinberg, 2020). In short, findings in sleep science have clear relevance for questions at the core of political science.

These effects are particularly worrisome as inadequate sleep (less than seven hours; Hirshkowitz et al., 2015) is a problem for 35% of the American public (Centers for Disease Control and Prevention [CDC], 2017) and, likely, a sizeable percentage of political elites (cf. Barnes & Spreitzer, 2015). Access to sleep is also an issue of social justice; insufficient sleep is a problem for 33% of White Americans, but 46% of Black Americans (CDC, 2017), and sleep quality is a crucial link between socioeconomic status and well-being (Mezick et al., 2008; Moore et al., 2002). Taken together, insufficient sleep has significant aggregate economic costs (Hafner et al., 2017), but its effects on the functioning of democratic institutions are poorly understood.

An agenda for sleep and politics

Political scientists are uniquely positioned to uncover the links between sleep and the health of democracy. I suggest three pathways forward—on participatory democracy, on ideology, and on the way that context shapes sleep-politics links—but many other directions should also be explored.

Persuasion and mobilization are core topics in studying participatory democracy. Researchers should use experiments to examine how voters with different sleep patterns are affected by campaign messages throughout the day. Time of day is a critical variable in reasoning, with early risers processing arguments systematically in the morning and heuristically in the evening (with the reverse for night owls; Martin & Martin, 2013). Given that a third of the American electorate experiences inadequate sleep, understanding the political consequences of cognitive impairments from insufficient sleep is vital for building a resilient political system.

In the United States, morning types are more politically conservative on average (Ksiazkiewicz, 2020; cf. Ksiazkiewicz & Erol, *forthcoming*), but it remains an open question why morningness and conservatism are linked. The 9-to-5, “early bird gets the worm” organization of professional life may nudge morning types to accept the social status quo because it aligns with their predispositions, while simultaneously alienating evening types. Conversely, surveys that focus on chronotype as a social identity (Ksiazkiewicz, 2021) have opened the possibility of reciprocal effects. Ideology may instead affect how a person structures their daily time, including sleep habits. Longitudinal studies could help sort out the

direction of causation. Twin studies could supplement this work by uncovering the common roots of sleep behaviors and political attitudes, such as shared genetic or environmental influences.

Finally, the relationships identified so far—sleep duration and turnout, sleep timing and ideology, political stress and sleep loss—differ across contexts. Comparative and subnational research could expand the breadth of our understanding by identifying contextual differences in the relationships between sleep and politics. This could include variation across social groups, across regions or environments within countries (e.g., urban-rural or by local polarization), and between countries where cultural or geographic factors may mitigate or exacerbate—or, indeed, create—links between sleep and politics.

Broader implications

Beyond these three pathways forward, there is potential for further scientific discovery. Consider how electoral institutions can have disparate impacts by sleep status (Urbatsch, 2017), the decision-making consequences of inadequate sleep among political elites (Wiegele, 1973), or the effect of military conflict on sleep loss among soldiers (Neylan et al., 1998; Pruiksmā & Peterson, 2018) and civilians (Palmieri et al., 2010). Some normative scholars argue for a right to sleep (Goldberg-Hiller, 2019). Existing sleep studies in political science rely primarily on self-reports of sleep duration and timing, which may be subject to biases and may miss other sleep behaviors like napping (Bessone et al., 2021; Schokman et al., 2018). Nonetheless, existing studies could be supplemented by a wide variety of other measures of sleep (e.g., sleep diaries, sleep quality, insomnia identity), untapped data sources (e.g., public health data, collaboration with sleep labs, data from sleep trackers, wearables, or social media activity), and the potential for using experiments to disentangle causality (cf. Bessone et al., 2021; Holbein et al., 2019).

Ensuring adequate sleep should be a key policy goal. Sleep should be understood as a national resource that is vital to our physical and mental health, to the economy, and, ultimately, to our democracy. Political scientists could contribute to policy deliberations regarding school start times (Troxel & Wolfson, 2017), daylight saving time (Rishi et al., 2020), light pollution (Hölker et al., 2010), blue light from devices

that disrupt sleep (Hatori et al., 2017), and labor practices that affect sleep (Grzywacz et al., 2007). Moreover, inadequate sleep is not a problem that is confined to the United States—it is a global problem (Chattu et al., 2019), as are sleep inequalities by socioeconomic status (Bessone et al., 2021).

In short, political scientists across subfields can and should consider whether and how sleep influences political life in their area of expertise. This novel paradigm presents an opportunity for discovery of new phenomena and links across areas of research and practice. Examining this vital behavior across the range of political science subfields can help us to develop a holistic picture of the political consequences of sleep. This new research agenda will enrich our theories of politics and enable us to identify pressing areas for policy interventions to sustain our democracy.

References

- Allred, S., Duffy, S., & Smith, J. (2016). Cognitive load and strategic sophistication. *Journal of Economic Behavior & Organization*, 125, 162–178. <https://doi.org/10.1016/j.jebo.2016.02.006>
- Anýž, J., Bakštein, E., Dudysová, D., Veldová, K., Kliková, M., Fárková, E., Kopřivová, J., & Španiel, F. (2019). No wink of sleep: Population sleep characteristics in response to the Brexit poll and the 2016 U.S. presidential election. *Social Science & Medicine*, 222, 112–121. <https://doi.org/10.1016/j.socscimed.2018.12.024>
- Barnes, C. M., & Spreitzer, G. (2015). Why sleep is a strategic resource. *MIT Sloan Management Review*, 56(2), 19–21.
- Bessone, P., Rao, G., Schilbach, F., Schofield, H., & Toma, M. (2021). The economic consequences of increasing sleep among the urban poor. *The Quarterly Journal of Economics*, 136(3), 1887–1941. <https://doi.org/10.1093/qje/qjab013>
- Carvalho, F. G., Hidalgo, M. P., & Levandovski, R. (2014). Differences in circadian patterns between rural and urban populations: An epidemiological study in countryside. *Chronobiology International*, 31(3), 442–449. <https://doi.org/10.3109/07420528.2013.846350>
- Centers for Disease Control and Prevention. (2017, May 2). *Data and statistics—Sleep and sleep disorders*. https://www.cdc.gov/sleep/data_statistics.html
- Chattu, V. K., Manzar, M. D., Kumary, S., Burman, D., Spence, D. W., & Pandi-Perumal, S. R. (2019). The global problem of insufficient sleep and its serious public health implications. *Healthcare*, 7(1), 1. <https://doi.org/10.3390/healthcare7010001>
- Deck, C., & Jahedi, S. (2015). The effect of cognitive load on economic decision making: A survey and new experiments. *European Economic Review*, 78, 97–119. <https://doi.org/10.1016/j.euroecorev.2015.05.004>
- Dewald, J. F., Meijer, A. M., Oort, F. J., Kerkhof, G. A., & Bögels, S. M. (2010). The influence of sleep quality, sleep duration and sleepiness on school performance in children and adolescents: A meta-analytic review. *Sleep Medicine Reviews*, 14(3), 179–189. <https://doi.org/10.1016/j.smrv.2009.10.004>
- Dickinson, D. L., & McElroy, T. (2017). Sleep restriction and circadian effects on social decisions. *European Economic Review*, 97, 57–71. <https://doi.org/10.1016/j.euroecorev.2017.05.002>
- Eidelman, S., Crandall, C. S., Goodman, J. A., & Blanchar, J. C. (2012). Low-effort thought promotes political conservatism. *Personality and Social Psychology Bulletin*, 38(6), 808–820. <https://doi.org/10.1177/0146167212439213>
- Fabbian, F., Zucchi, B., De Giorgi, A., Tiseo, R., Boari, B., Salmi, R., Cappadona, R., Giancesini, G., Bassi, E., Signani, F., Raparelli, V., Basili, S., & Manfredini, R. (2016). Chronotype, gender and general health. *Chronobiology International*, 33(7), 863–882. <https://doi.org/10.1080/07420528.2016.1176927>
- Fischer, D., Lombardi, D. A., Marucci-Wellman, H., & Roenneberg, T. (2017). Chronotypes in the US—Influence of age and sex. *PLOS ONE*, 12(6), e0178782. <https://doi.org/10.1371/journal.pone.0178782>
- Ford, B. Q., & Feinberg, M. (2020). Coping with politics: The benefits and costs of emotion regulation. *Current Opinion in Behavioral Sciences*, 34, 123–128. <https://doi.org/10.1016/j.cobeha.2020.02.014>
- Goldberg-Hiller, J. (2019). Is there a right to sleep? *Theory & Event*, 22(4), 951–983.
- Grzywacz, J. G., Casey, P. R., & Jones, F. A. (2007). The effects of workplace flexibility on health behaviors: A cross-sectional and longitudinal analysis. *Journal of Occupational and Environmental Medicine*, 49(12), 1302–1309. <https://doi.org/10.1097/JOM.0b013e31815ae9bc>
- Hafner, M., Stepanek, M., Taylor, J., Troxel, W. M., & van Stolk, C. (2017). Why sleep matters—The economic costs of insufficient sleep. *Rand Health Quarterly*, 6(4), 11.
- Hatori, M., Gronfier, C., Van Gelder, R. N., Bernstein, P. S., Carreras, J., Panda, S., Marks, F., Sliney, D., Hunt, C. E., Hirota, T., Furukawa, T., & Tsubota, K. (2017). Global rise of potential health hazards caused by blue light-induced circadian disruption in modern aging societies. *Npj Aging and Mechanisms of Disease*, 3(1), 1–3. <https://doi.org/10.1038/s41514-017-0010-2>
- Hirshkowitz, M., Whiton, K., Albert, S. M., Alessi, C., Bruni, O., DonCarlos, L., Hazen, N., Herman, J., Adams

Sleeping giant: A research agenda for politics and chronobiology

- Hillard, P. J., Katz, E. S., Kheirandish-Gozal, L., Neubauer, D. N., O'Donnell, A. E., Ohayon, M., Peever, J., Rawding, R., Sachdeva, R. C., Setters, B., Vitiello, M. V., & Ware, J. C. (2015). National Sleep Foundation's updated sleep duration recommendations: Final report. *Sleep Health*, 1(4), 233–243. <https://doi.org/10.1016/j.sleh.2015.10.004>
- Holbein, J. B., Schafer, J. P., & Dickinson, D. L. (2019). Insufficient sleep reduces voting and other prosocial behaviours. *Nature Human Behaviour*, 3(5), 492–500. <https://doi.org/10.1038/s41562-019-0543-4>
- Hölker, F., Moss, T., Griefahn, B., Kloas, W., Voigt, C. C., Henckel, D., Hänel, A., Kappeler, P. M., Völker, S., Schwöpe, A., Franke, S., Uhrlandt, D., Fischer, J., Klenke, R., Wolter, C., & Tockner, K. (2010). The dark side of light: A transdisciplinary research agenda for light pollution policy. *Ecology and Society*, 15(4). <https://www.jstor.org/stable/26268230>
- Jonason, P. K., Jones, A., & Lyons, M. (2013). Creatures of the night: Chronotypes and the Dark Triad traits. *Personality and Individual Differences*, 55(5), 538–541. <https://doi.org/10.1016/j.paid.2013.05.001>
- Killgore, W. D. S. (2010). Effects of sleep deprivation on cognition. *Progress in Brain Research*, 185, 105–129. <https://doi.org/10.1016/B978-0-444-53702-7.00007-5>
- Ksiazkiewicz, A. (2020). Conservative larks, liberal owls: The relationship between chronotype and political ideology. *The Journal of Politics*, 82(1), 367–371. <https://doi.org/10.1086/705927>
- Ksiazkiewicz, A. (2021). Political ideology and diurnal associations: A dual-process motivated social cognition account. *Politics and the Life Sciences*, 40(1), 56–71. <https://doi.org/10.1017/pls.2021.4>
- Ksiazkiewicz, A., & Erol, F. (2022). Too tired to vote: A multinational comparison of election turnout with sleep preferences and behaviors. *Electoral Studies*, 78, Article 102491. <https://doi.org/10.1016/j.electstud.2022.102491>
- Ksiazkiewicz, A. & Erol, F. (forthcoming). Linking Sleep, Political Ideology, and Religious Observance: A Multi-National Comparison. *International Journal of Public Opinion Research*.
- Lipnevich, A. A., Credè, M., Hahn, E., Spinath, F. M., Roberts, R. D., & Preckel, F. (2017). How distinctive are morningness and eveningness from the Big Five factors of personality? A meta-analytic investigation. *Journal of Personality and Social Psychology*, 112(3), 491–509. <https://doi.org/10.1037/pspp0000099>
- Martin, P. Y., & Martin, R. (2013). Morningness–eveningness orientation and attitude change: Evidence for greater systematic processing and attitude change at optimal time-of-day. *Personality and Individual Differences*, 54(5), 551–556. <https://doi.org/10.1016/j.paid.2012.10.031>
- Mezick, E. J., Matthews, K. A., Hall, M., Strollo, P. J., Buysse, D. J., Kamarck, T. W., Owens, J. F., & Reis, S. E. (2008). Influence of race and socioeconomic status on sleep: Pittsburgh Sleep SCORE Project. *Psychosomatic Medicine*, 70(4), 410–416. <https://doi.org/10.1097/PSY.0b013e31816fdf21>
- Moore, P. J., Adler, N. E., Williams, D. R., & Jackson, J. S. (2002). Socioeconomic status and health: The role of sleep. *Psychosomatic Medicine*, 64(2), 337–344.
- Nawara, S. P., & Bailey, M. (2021). Scandal-ridden campaigns: The relationship between cognitive load and candidate evaluation. *The Social Science Journal*. <https://doi.org/10.1080/03623319.2021.1884780>
- Neylan, T. C., Marmar, C. R., Metzler, T. J., Weiss, D. S., Zatzick, D. F., Delucchi, K. L., Wu, R. M., & Schoenfeld, F. B. (1998). Sleep disturbances in the Vietnam generation: Findings from a nationally representative sample of male Vietnam veterans. *American Journal of Psychiatry*, 155(7), 929–933. <https://doi.org/10.1176/ajp.155.7.929>
- Palmer, C. A., & Alfano, C. A. (2017). Sleep and emotion regulation: An organizing, integrative review. *Sleep Medicine Reviews*, 31, 6–16. <https://doi.org/10.1016/j.smrv.2015.12.006>
- Palmieri, P. A., Chipman, K. J., Canetti, D., Johnson, R. J., & Hobfoll, S. E. (2010). Prevalence and correlates of sleep problems in adult Israeli Jews exposed to actual or threatened terrorist or rocket attacks. *Journal of Clinical Sleep Medicine*, 6(6), 557–564. <https://doi.org/10.5664/jcsm.27989>
- Potoski, M., & Urbatsch, R. (2017). Entertainment and the opportunity cost of civic participation: Monday Night Football game quality suppresses turnout in US elections. *The Journal of Politics*, 79(2), 424–438. <https://doi.org/10.1086/688174>
- Pruiksma, K. E., & Peterson, A. L. (2018). Sleep disturbance during military deployment. In E. Vermetten, A. Germain, & T. C. Neylan (Eds.), *Sleep and combat-related post traumatic stress disorder* (pp. 59–68). Springer. https://doi.org/10.1007/978-1-4939-7148-0_6
- Rishi, M. A., Ahmed, O., Barrantes, P. J. H., Berneking, M., Dombrowsky, J., Flynn-Evans, E. E., Santiago, V., Sullivan, S. S., Upender, R., Yuen, K., Abbasi-Feinberg, F., Aurora, R. N., Carden, K. A., Kirsch, D. B., Kristo, D. A., Malhotra, R. K., Martin, J. L., Olson, E. J., Ramar, K., ... Gurubhagavatula, I. (2020). Daylight saving time: An American Academy of Sleep Medicine position statement. *Journal of Clinical Sleep Medicine*, 16(10), 1781–1784. <https://doi.org/10.5664/jcsm.8780>
- Schafer, J., & Holbein, J. B. (2020). When time is of the essence: A natural experiment on how time constraints influence elections. *The Journal of Politics*, 82(2), 418–432. <https://doi.org/10.1086/706110>
- Schokman, A., Bin, Y. S., Simonelli, G., Pye, J., Morris, R., Sumathipala, A., Siribaddana, S. H., Hotopf, M., Rijdsdijk, F.,

Jayaweera, K., & Glozier, N. (2018). Agreement between subjective and objective measures of sleep duration in a low-middle income country setting. *Sleep Health*, 4(6), 543–550. <https://doi.org/10.1016/j.sleh.2018.08.008>

Troxel, W. M., & Wolfson, A. R. (2017). The intersection between sleep science and policy: Introduction to the special issue on school start times. *Sleep Health*, 3(6), 419–422. <https://doi.org/10.1016/j.sleh.2017.10.001>

Urbatsch, R. (2014). Time regulations as electoral policy. *American Politics Research*, 42(5), 841–855. <https://doi.org/10.1177/1532673X14523034>

Urbatsch, R. (2017). Youthful hours: Shifting poll-opening times manipulates voter demographics. *Research & Politics*,

4(3), 2053168017720590. <https://doi.org/10.1177/2053168017720590>

Van Cauwenberge, A., Schaap, G., & van Roy, R. (2014). “TV no longer commands our full attention”: Effects of second-screen viewing and task relevance on cognitive load and learning from news. *Computers in Human Behavior*, 38, 100–109. <https://doi.org/10.1016/j.chb.2014.05.021>

Vaseghi, S., Arjmandi-Rad, S., Kholghi, G., & Nasehi, M. (2021). Inconsistent effects of sleep deprivation on memory function. *EXCLI Journal*, 20, 1011–1027. <https://doi.org/10.17179/excli2021-3764>

Wiegele, T. C. (1973). Decision-making in an international crisis: Some biological factors. *International Studies Quarterly*, 17(3), 295–335. <https://doi.org/10.2307/2600372>