Ticking Clocks: Social Acceleration and a Culture of Sleep Deprivation Among Students

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On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

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Introduction

In 2019, the World Health Organization claimed that there is currently a "global epidemic of sleepiness", with a decline in sleep duration particularly visible among adolescents and young adults (Lyon, 2019). This statistic reflects the frightening idea that young people are not getting the amount of sleep necessary for their physical and mental health, but the reasons behind this decline have not been comprehensively established. Long-term desynchronization between physiological and behavioral rhythms, such as chronic sleep disruption, has been linked to disorders ranging from cardiovascular disease to cancer (Gagliano et al., 2021) and it has been noted that around 70% of college students obtain less than the recommended eight hours of sleep each night, with 60% of students reporting that they are tired or sleepy at least three days a week (Hershner & Chervin, 2014). This is indicative of a dangerous culture on college campuses, where acute sleep deprivation is so pervasive it has become its own colloquialism: pulling an all-nighter.

Sleep is an innate biological process, but while biomedical analyses can comprehensively examine the effects that poor sleep quality and insufficient sleep duration have on human health, they often fail to acknowledge that sleep is not a purely biological phenomenon. Sleep is also socially constructed, and elements of sleep vary according to cultural norms, societal demands, and technological influences. It is only by acknowledging and investigating the complex sociotechnical factors impacting sleep that the reasons behind the sleep epidemic can be fully understood.

By examining students' sleep through the framework of social acceleration, this research seeks to understand how the technological and social developments of modern society have

influenced cultural norms around circadian rhythm and led to the creation of a culture where student sleep deprivation is considered par-for-the-course.

Background: Biomedical and Sociocultural Understandings of Sleep

Most modern studies on sleep deprivation and other circadian rhythm disruptions view the problem from a biological or medical standpoint. As previously noted, poor sleep is certainly a medical issue, as circadian misalignment has overwhelmingly been associated with negative health outcomes like an increased risk of both physical, such as diabetes and cancer, and psychiatric disorders, such as depression and schizophrenia (Baron & Reid, 2014). A key determinant of such circadian misalignments is chronotype. Chronotypes, commonly understood as being a morning or evening person, represent an individual's innate circadian variation, and clinical research suggests that certain chronotypes are linked to specific health issues (Zou et al., 2022). Additionally, there have been some studies focusing on the link between sleep quality and academic performance, which found that not only did a majority of students have subjectively poor quality of sleep, but that worse sleep directly correlated with lower GPAs.

Another important consideration is the impact that modern technological advancements have had on the normalization of sleep deprivation culture among college students. One example is how the ubiquity of smartphones and remote learning technologies contribute to telepressure, an always-connected mentality which has been associated with increased stress and decreased sleep among students (Barber & Santuzzi, 2017). Smartphones and other technology are also involved in other sleep-damaging behaviors such as doomscrolling, bedtime procrastination, and late-night blue light exposure. The habits and pressures associated with electronic devices are thus key elements to consider when examining student sleep habits.

Sociological analysis of sleep (and the lack thereof) is a developing area of research, with discourse emerging on this reciprocal intersection of medicine, culture, society, and the self. Such examinations attempt to address the organization and negotiation of sleep on three key levels: the individual, social/interactional, and societal/institutional (Williams, 2005). Through this, broader sociological frameworks that address societal actions and attitudes at any level can also be applied to better understand the social and technological mediation of sleep.

One useful framework is social acceleration theory, which argues that key social and technological aspects of contemporary life are speeding up, creating an accelerative trend that effects both cultural and social structures as well as the temporality of individual existences (Hsu, 2014). Sleep is an inherently embodied phenomenon and thus both affects and is affected by social acceleration, and universities are a unique microcosm of broader society. This framework is supported by analyses that have demonstrated that sleep is strongly modulated by social factors (Cacioppo et al., 2002). Application of the concepts associated with social acceleration is thus a relevant framework through which to understand the sleep habits of college students.

At its broadest, social acceleration theory posits that Western society is accelerating in three distinct dimensions: technological development, social change, and the pace of life (Rosa & Trejo-Mathys, 2015). An accelerating pace of life can also be understood as a scarcity of time as a resource, and Rosa describes shortening sleep duration as one consequence of this phenomenon. The coupling of technological advancement and time scarcity creates a "time-pressure paradox": the disjunction between the cultural allure of speed and the common experience of always feeling rushed, as interrogated by Judy Wajcman (2014). The framework of social acceleration thus describes time as intrinsically both social and personal; cultural norms

and social pressures couple with technological reality to produce temporal experiences with individual material consequences.

Methods

The research conducted here seeks to answer the question of how sociotechnical factors, particularly those associated with social acceleration, influence students' attitudes towards sleep deprivation. In order to investigate that question, the methods of ethnography and literature review were utilized to collect relevant data concerning undergraduate students' sleep attitudes both at the University of Virginia and more generally. Additionally, the framework of social acceleration was used both to guide data collection and to analyze results.

Ethnography is traditionally used in the field of anthropology, and is an approach characterized by immersion in the community of interest as the researcher observes the subjects' behaviours and interactions. The ethnographic method generally combines observations, interviews, and other types of documentary data in order to create a detailed account of behaviours, perceptions, and interactions within a specific community (Reeves et al., 2013). An important aspect of ethnographic work is that it is inherently qualitative and usually involves a relatively small sample. Compared to other research methods, ethnography attempts to prioritize depth over breadth as it works to create a holistic understanding of the phenomenon of interest.

As part of the ethnographic research for this study, interviews were conducted with eight undergraduate students at the University of Virginia. These interviews were conducted face-to-face in approximately one-hour sessions where subjects were given various questions about their sleep habits and asked to explain how various sociotechnical factors of interest impacted them personally. In order to more fairly represent the student population, all interviewees were in

either their second, third, or fourth years of undergraduate study at the University of Virginia, and no two subjects were in the same program. Additionally, an equal number of students of each gender were interviewed, and four of the eight participants identified as belonging to a racial or ethnic minority. In these sessions, the subjects were not only asked specific questions but also engaged in more general discussion on the topic. Interviewees were additionally asked to talk about what they perceived to be the cultural norms surrounding sleep among their friends and peers, as well as how their own habits intersected with what they saw around them. For the purposes of this paper, all names of participants were changed in order to protect their privacy.

In conjunction with those ethnographic interviews, a literature review was performed to gather supporting medical, sociological, and statistical evidence. Relevant literature was identified regarding not only the sleep habits of university students, but also the place of and attitudes towards sleep in contemporary society at a broader level. Of particular interest was literature which connected the concepts examined in the qualitative ethnography with quantitative data.

Results & Discussion

When viewed through the framework of social acceleration, the results of this research, collected via the methods outlined above, have several important implications for the question of how the technological and social constructions of modern university culture have impacted students' sleep.

To contextualize the perceptions and behaviours expressed through the interview and observational data, each subject's chronotype was established. This was done via the Automated Morningness-Eveningness Questionnaire (Terman et al., 2001), which is an online adaptation of

a self-assessment protocol for determining chronotype, the individual's particular circadian rhythm (Horne & Östberg, 1976). Five of the eight participants had an "intermediate" chronotype, two were true "morning", and only one had an "evening" chronotype.

Chronotypes are an important element to consider when examining sleep behaviors because desynchrony between an individual's chronotype and actual schedule results in circadian misalignment and poorer sleep quality (Zou et al., 2022). Megan had the evening chronotype and is thus inclined to sleep and wake late; she said that this preference made academic life more difficult for her as the classes she needs are mostly scheduled in the mornings when she is least alert, and her performance is at its worst. Conversely, the two students, Aaron and John, with morning chronotypes expressed that, while their circadian preferences were compatible with academics, they had more difficulty with the schedule of social and extracurricular activities. John said that he often felt like the "odd one out" because he didn't normally stay out late, and Aaron said that sleeping and rising early made him a "grandpa" among his friends. These contrasting experiences highlight the tension between individual chronotypes and the complex temporal regimes of student life, where academics schedules run counter to social calendars and students must somehow do it all.

An Accelerating Pace of Life

The pressure to "do it all" was a common thread throughout the ethnographic interviews. Aaron said that it was part of the "work hard, play hard" attitude of the University of Virginia, a sentiment which was echoed by several other students. Megan explained that there was a "very competitive culture here" where "if you're not doing something all of the time, you're not a useful part of the community". The competitiveness creates a "silent pressure to be better than everyone else, in everything you do, all the time" where people "aimlessly push themselves" and

"you can never do enough,' according to Arielle. These comments indicate that the cultural and social norms at UVA have cultivated an atmosphere of intensity, where the idea that one can "do it all" is both normalized and valorized. These attitudes, however, can also be directly linked to social acceleration, which has resulted in "the *intensification* of work" (Rosa & Trejo-Mathys, 2015) and "renders plausible, even normal, the idea of working without pause, without limits." (Crary, 2013). By increasing the pace of life, social acceleration has fundamentally altered expectations of productivity. Without the circumstances and ideologies created by social acceleration, it is difficult to even conceive of the need to do it all—let alone make it a social norm.

If students must, as Theo said, "always be doing *something*," what time does that leave for sleep? Data was collected to determine when and for how long each subject slept. The average sleep duration of the participants was approximately seven hours, with a minimum of five and a half hours a night and a maximum of nine, reflecting significant variance. Seven out of eight subjects reported in their interviews that they experienced an overall poor quality of sleep and were usually tired in the mornings, a trend that included the students with both the longest and shortest sleep times. This correlates with observations in the medical literature, which note that poor sleep quality and excessive daytime sleepiness are almost endemic among college students (Haregu et al., 2015).

What is interesting about this is not only the existence of these trends, but students' awareness of them. Tiredness and lack of sleep were said by all to be fairly common topics of conversation amongst their friends and peers, and Faith described it as "part of normal small talk—like 'Hi, how are you, I'm tired.'" This reflects a worrying trivialization of sleeplessness, where, despite students' acknowledgement of their unhealthy habits, they still regard it as par-

for-the-course and even something to emulate. One subject, James, specifically mentioned that people use casual discussions to "flex [about how little they slept] because the belief is the less you sleep, the more work you're doing." Similar sentiments were expressed by Theo, who said people "brag about their awful sleep schedules to say, 'I can do it all'." This reflects one thing that did not appear in the literature review but was a common theme in the subject interviews, that actual sleep deprivation did not matter nearly as much as being *perceived* to be sleep deprived. The perception of sleeplessness was reported by Piper as more important than the actual behavior, since "being seen" to sacrifice sleep showed that one was fulfilling the "social expectation to work hard".This demonstrates that the attitude towards sleep is directly influenced by the social and cultural norms that have developed in the community as a result of the pressures and altered expectations created by social acceleration.

The casual attitude towards tiredness suggested that students simply do not consider sleep to be important. In order to further interrogate this, participants were asked to describe both the importance that they assigned to sleep and how that importance translated into their everyday lives. All of them acknowledged that sleep was necessary for their physical and mental wellbeing. However, while some said that this made them actively attempt to maintain a healthy sleep schedule, other students admitted that sleep was simply not a priority for them.

It was repeatedly mentioned by the interviewees that sleep was something that they sacrificed in favor of other aspects of their lives, such as academic responsibilities or social events, because they simply do not have enough time in the day. All of the interviewed students said that, in the current semester, they had chosen to alter their sleep schedule in order to get more things done. For the majority of participants, this meant going to bed later than usual, and more than half said they did so at least once a week. Megan suggested that one reason that she

stayed up so late, sometimes to the point of an all-nighter, was simply because "it feels like time is running out."

The idea of not having enough time is a key connection to the social acceleration framework, which, in part, seeks to answer the question, "Why is there…always more to do than can be done?" (Rosa, 2016). That question highlights the fact that, despite the numerous time-freeing technological advancements of the modern era, students still experience a scarcity of time as a resource. They feel like they cannot sleep because there is always something else that they need to do. While the amount of time in the day is an objective fact, social acceleration increases the pace of life such that people's subjective experiences of time are altered. Leisure time seems scarcer, and the days feel more hectic, such that a lack of time is felt while the desire to do more in less time persists (López-Deflory et al., 2022).

Time Pressure and Temporal Control

This mismatch between perceived temporal resources and required tasks is the time-pressure paradox, which Judy Wajcman argues is a "perverse symptom of late modernity, leading to increasing pressure and stress" (2014). One of the chief difficulties of this paradox for students is that they must concurrently manage their academic, extracurricular, and social needs, and "time scarcity may result not so much from a shortage of time but because of the increasing complexity of scheduling" (Wajcman, 2014). Time management becomes a task in and of itself, further draining students' limited temporal reserves. Given the impossibilities of this paradox, it is little wonder that Arielle said, "Sleep is always the first thing to go."

The most extreme manifestation of students' willingness to sacrifice and forgo their sleep in order to increase their productivity is the phenomenon of the all-nighter. An all-nighter is

generally defined as a single night of total sleep deprivation, where someone stays up through the night until at least their usual wake-up time (Thacher, 2008). Four of the eight interviewed participants reported that they had pulled an all-nighter at least once during their time in college, and all eight subjects said that members of their close social circle had done so. Megan was the student with the most experience with all-nighters, having done so "at least five times during my time at UVA." Theo said that all-nighters "feel like part of the culture" where "you push til you drop," which clearly demonstrates how sleep deprivation has been normalized as another part of the UVA experience. All-nighters were reported as the result of desperation, usually engaged in for the purposes of completing a specific assignment during the chaos of midterms or finals season. One interesting aspect of this behavior was that none of the students regretted their all-nighters, even though each said it ruined the following day, because it allowed them to do what they needed to do. This reflects the strength of social acceleration's influence, as it causes students to knowingly break the ostensibly sacred boundaries of sleep simply to keep up with pace of their lives.

In addition to the perceived necessity which fueled all-nighters and ordinary sleep deprivation alike, the interviewees also suggested that they sacrificed sleep because they perceived their sleep schedules as inherently malleable. Every single participant reported that their sleep pattern was at least somewhat flexible, with estimates of variability ranging from three to six hours. Arielle acknowledged this pattern and said that "I can survive off little to no sleep, and once I figured that out there was no going back." This indicates that unhealthy sleep habits among students are impacted by the perception of sleep as a matter of personal limits, and thus ultimately controllable. This view of sleep is consistent with pre-existing literature on student sleep habits, which describes flexible sleep patterns as a key component of the college

student lifestyle (Coveney, 2014). When examining the multitude and variation of demands on their time, the universal commitment to flexibility is notable. However, it is not surprising because, as time becomes more scarce as a resource, controlling how time is spent becomes an increasingly valuable method of asserting one's freedom and autonomy. Students also attempt to maintain the flexibility of their time by trying to catch-up on sleep during the weekends and over breaks. All eight participants said that they engaged in such behavior, even though it was not always effective. By emphasizing and attempting to maintain the flexibility of their time, the students are able to uphold their temporal sovereignty, which is "a significant measure of life satisfaction and well-being." (Wajcman, 2014).

Students' desire to control how their time is spent is also supported by research which suggests that students modify their sleep around not only their academic engagements but also their social lives (Coveney, 2014). In order to investigate that further, the impact of social activities and pressures on sleep habits was brought up with the interviewees. More than half of the student participants said that they altered their typical sleep schedules in order to participate in social or extracurricular events at least once a week. Each student who described such behavior said that it meant they went to bed later than they preferred, but that it was part of maintaining their social life. This clearly demonstrates that it is not only academic pressures which are affected by normalized student sleep deprivation, but social ones as well.

The Technological Dimension

Along with increasing pace of life and changes in cultural norms, technological acceleration is a key element in social acceleration, as it both "increases the imaginable opportunities and…converts all the hypothetical possibilities into real options." (Rosa, 2016). Technology is a key mediator of modern life, as it shapes experiences of time, space,

community, and communication, changing the way things are done and redefining conceptions of being. Technological acceleration breaks barriers, altering relational patterns and revolutionizing the speed and ease of interaction (López-Deflory et al., 2022).

One vital manifestation of technological acceleration for students is the near ubiquity of laptops, phones, and general technology usage. Each participant said that they relied on their laptops to complete their daily academic tasks and responsibilities, and several people reported that this usage extended late into the night multiple times a week. Those individuals expressed that late-night work was directly influenced by the due time of assignments: when something was due at midnight, they, due to some combination of preference and necessity, would, according to Faith, "stay up to continue working until the very last second". The ability to work on and submit an assignment late at night is only possible due to the universal integration of digital platforms in university courses. This demonstrates how technological acceleration forms the material basis for transformations of social norms and interactions. The normalization of late-night work is only one way in which the increasing omnipresence of technology has adversely impacted students' sleep habits.

Students described themselves as connected to technology for "almost all of the day," and all admitted to checking their messages and emails either late at night or first thing in the morning—some before even getting out of bed. This hyperconnectivity is indicative of the larger trend created by technological acceleration, which has brought "each person into communicative connection with every other person around the world at all times" (Rosa & Trejo-Mathys, 2015). Because technology is so accessible, the ease of connection has dramatically increased, and barriers between sleep, work, and leisure have been eroded. Spatial, temporal, and technical

distinctions blur, leaving individuals to enforce their own boundaries—an inherently difficult task.

That leaves individuals particularly vulnerable to telepressure, which consists of "both thinking about the need to respond to message-based communications…and the urge to reply quickly" (Barber & Santuzzi, 2017). The effect of telepressure on students is thus demonstrated by their constant connection to technological communications. Telepressure also intersects with experiences of temporal sovereignty, as the "pattern of compulsive connectivity" allows for individual flexibility and control but "also heightens expectations of availability and responsiveness, reducing their personal downtime and increasing stress" (Wajcman, 2014). As established earlier, students' prioritization of flexibility, even when it harms their sleep, allows them to maintain their temporal sovereignty in the face of increasing demands on their time and availability. Thus, students' reliance on detrimentally-flexible sleep patterns can be seen as arising from the lack of temporal sovereignty created by telepressure. The complex relationship between telepressure, autonomy, and stress helps explain why students such as Megan find it difficult to mentally detach from their responsibilities, which she described as "looming above all the time," even when trying to sleep. This stress was reported by six of the eight participants as something that either makes it more difficult for them to go to sleep, or worsens their quality of sleep. Since the technology students rely upon technically allows for them to be productive at any hour of the day, they are forced to continually justify their actions, including choosing to go to sleep, in a cultural milieu where Piper said, "There's so many things you're expected to do all the time". The technological dimension of social acceleration thus contributes to college students' treatment of sleep as something to be sacrificed and sleep deprivation as perfectly ordinary.

Conclusion

What constitutes normal sleep is socially constructed, and therefore the same forces of social and technological acceleration which impact other cultural norms also shape attitudes towards sleep. This is particularly true at the University of Virginia, where an fixation on a work-hard, play-hard culture fosters an attitude of competitiveness that permeates every aspect of student life, from academics to extracurriculars to social activities. Such intensity couples with the reality of modern technological ubiquity in such a way that students are under relentless time pressure, where they must do it all—even as time always seems to be running out.

The dimension of technological acceleration further contributes to students' normalization of unhealthy sleep patterns. Technology is an inescapable part of their lives, reliance on and attachment to digital devices extends throughout all hours of the day. The telepressure created by such an environment reinforces the cultural norms that deprioritize sleep while also decreasing the quality of the sleep that is achieved.

When viewed through the analytical framework, the results of this research suggest that social acceleration has fundamentally altered students' relationships with sleep. Sacrificing sleep and dealing with the ensuing sleep deprivation is understood by students to be an inescapable consequence of the college experience. They engage in such behaviour as a means of fulfilling social expectations, as the cultural understanding among UVA students is that to sacrifice sleep, and to be seen doing so, demonstrates willingness to pursue the work-hard, play-hard lifestyle idealized at the school. Students also normalize sleep deprivation in order to maintain flexible sleep schedules, which allows them assert temporal sovereignty over their lives in the face of constant time pressure. It is no wonder, then, that sleep has thus become such an accepted part of their lived experiences that it has been integrated into students' very identities.

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