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DISCUSSION PAPER SERIES

IZA DP No. 17929

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ABSTRACT

The Work-Habit Premium: How Daily Routines Predict CEO Remuneration in the S&P 500

This study explores the relationship between the daily habits of S&P 500 CEOs and their financial remuneration. Using a mixed-method approach, the research analyzes time allocation across work, sleep, and exercise among 22 CEOs from leading publicly listed U.S. corporations. Regression analysis evaluates how these habits correlate with annual salaries, supported by a comparative survey of 89 non-S&P 500 CEOs. Our findings reveal a statistically significant positive association between working hours and base salary, suggesting that longer working days may contribute to financial success. Conversely, no significant links were found between salary and duration of sleep or physical exercise duration. The study highlights that while multiple factors shape executive remuneration, work ethic remains the most predictive. The article provides new empirical evidence for the influence of habitual behavior on executive performance and underscores the relevance of structured daily routines in high-level corporate roles.

JEL Classification: D91, G11, G34, M12

Keywords: CEO habits, executive compensation, time allocation, work-life balance, behavioral economics

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Introduction

Prominent CEOs such as Elon Musk, Jeff Bezos, and Warren Buffett have attracted considerable public, political, and media attention (Dingwerth & Eckl, 2022). Their immense wealth, partly due to the expanding stock market (Guay, 1999), has raised interest in whether specific habits and routines contribute to their success (Porter & Nohria, 2018).

Research suggests sufficient sleep, reasonable working hours (Kelly & Moen, 2020), and regular physical activity (McDowell-Larsen et al., 2002) enhance productivity and well-being. This aligns with a broader societal emphasis on self-improvement (Maurer et al., 2023). Nonetheless, much human behavior operates subconsciously (Wood et al., 2002), complicating habit formation and comprehension.

Habits are commonly understood as automatic behaviors or tendencies (Gardner, 2015), with frameworks contributed by Wood et al. (2002), De Houwer et al. (2018), Tappe et al. (2013), and Skinner (1963). CEOs significantly influence corporate performance – up to 45 percent, according to McKinsey (2023) – which affects their remuneration. Despite this, empirical evidence concerning CEO habits, especially non-work routines like sleep and leisure, remains limited. While Kotter (1999), Mintzberg (1971), and Bandiera et al. (2017) have examined managerial behavior, gaps persist regarding S&P 500 CEOs' complete daily routines.

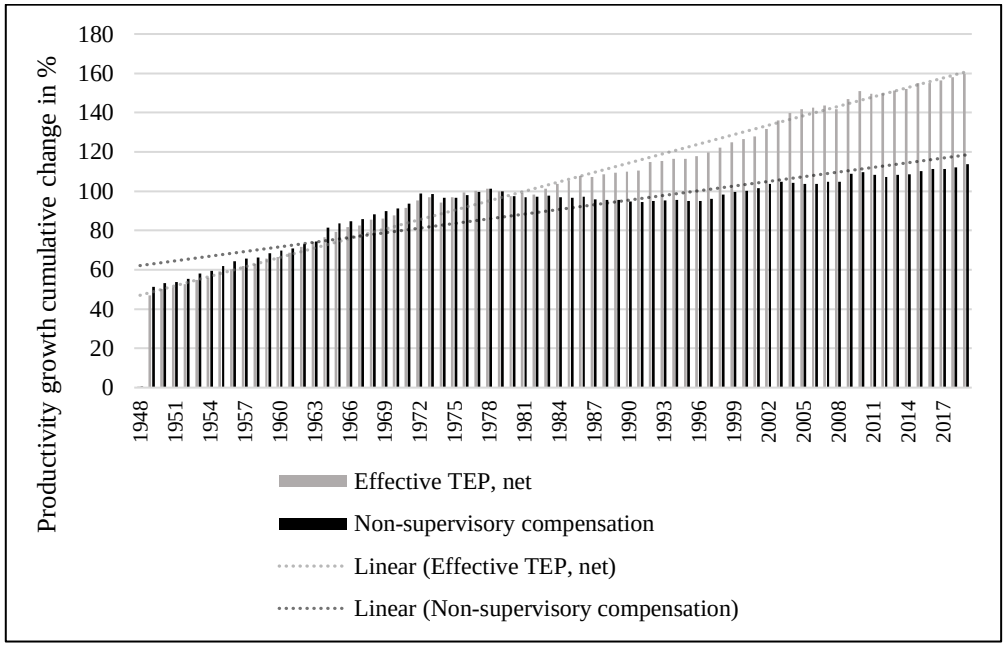
This article investigates two questions: (1) "How do S&P 500 CEOs allocate time and structure their daily routines?" and (2) "Do these habits contribute to business success?"

Theoretical Framework

Regarding work and compensation for services rendered, Figure 1 shows the U.S. development of total net economy productivity (TEP) – the growth output of goods and services minus depreciation per hour worked diverged (Bivens et al., 2014). Based on implemented governmental policies, Mishel and Bivens (2021) highlighted a visible shift in productivity growth and wages over a four-decade period beginning around 1979. Thus, the data implicates the dynamics in the labor market, underscoring the importance of balancing hours worked and financial stability.

Figure 1

Comparison of U.S. Net Effective Productivity and Hourly Remuneration



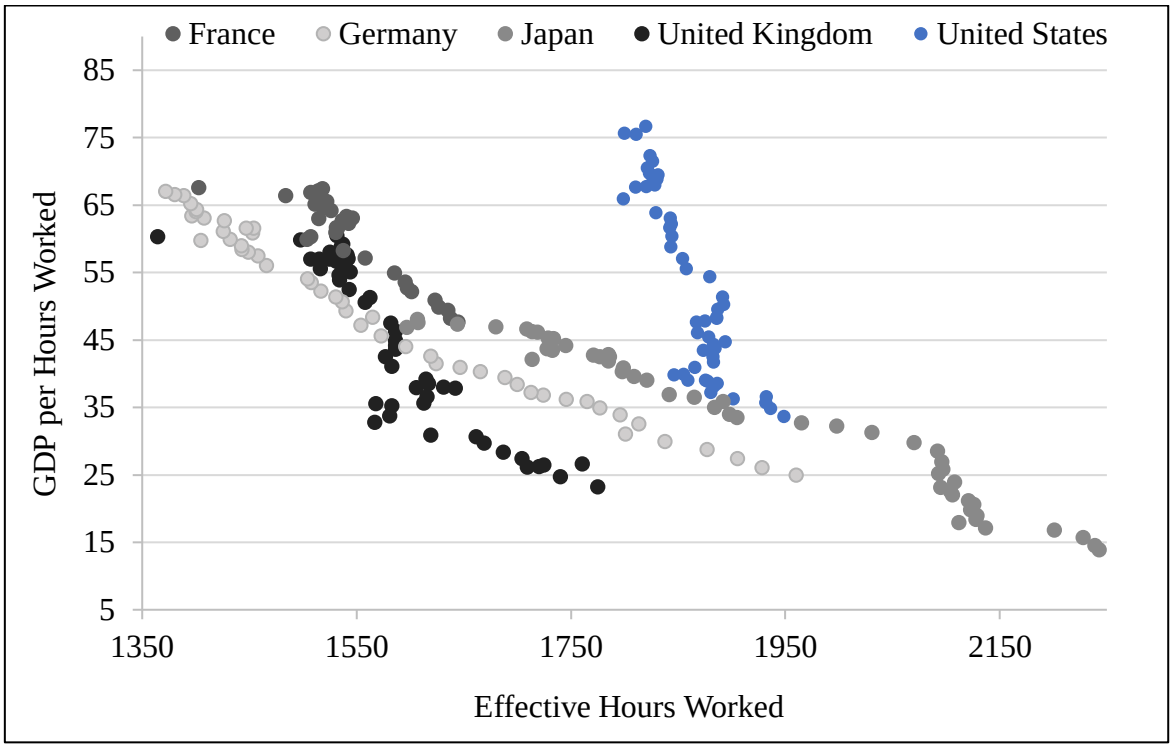
Becker (1996) argued that individuals aiming for future success cultivate habits that lead to favorable outcomes, reinforcing the significant role that habits play in shaping behavior (Gardner, 2015). Ouellette and Wood (1998) found past behavior predictive of future actions, and Wood et al. (2002) noted that nearly 50 percent of behavior is subconscious. Healthy routines, such as adequate sleep, encourage sound decision-making (Krause et al., 2017).

While individual habits are significant, institutions also influence behavior, thereby affecting leadership and stakeholder communication (Hodgson, 2004; Spong, 2019). This aligns with Hambrick and Mason's (1984) assertion that corporate performance is closely linked to CEO traits. CEOs, especially in the S&P 500, hold quasi-entrepreneurial roles with rising demands for entrepreneurial skills (Papadopoulos, 2019).

Leadership is often defined as noncoercive influence toward team objectives (Jago, 1982), with such behavior more prevalent in large multinationals (Sadun, 2023). McDowell-Larsen et al. (2002) emphasize that three habit domains – sleep, leisure, and work – are critical to daily performance, while excessive working hours harm well-being and satisfaction (Kelly & Moen, 2020). Based on data from the OECD (2017), Figure 2 shows evolving work patterns from 1970 to 2022, contrasting U.S. productivity with EU labor laws.

Figure 2

GDP per Hours Worked and Effective Hours Worked (1970-2022)



Collewet and Sauermann (2017) argued that longer working hours often reduce productivity brought on by fatigue. Similarly, Pencavel (2014) found that productivity declines after 48 working hours per week, though this did not consider the service sector. Brett and Stroh (2003) also noted that 61 hours per week was excessive, echoing findings from Brown and Baker (1942).

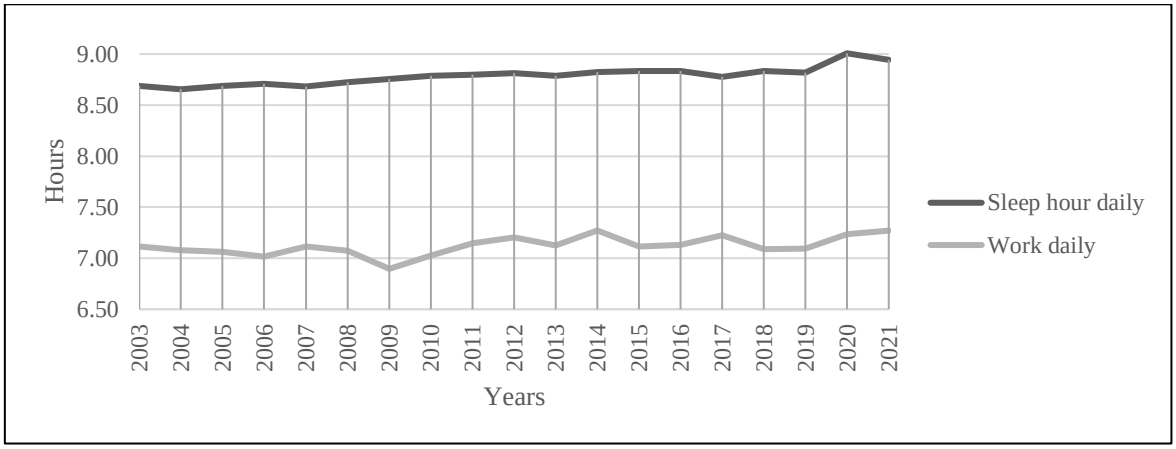
Porter and Nohria (2018) reported CEOs work an average of 9.7 hours daily, while the American Time Use Survey (ATUS) showed that 75,995 full-time male professionals averaged 8.29 hours (U.S. Bureau of Labor Statistics, 2022). Interestingly, wage and salary earners with the highest weekly income worked fewer hours (7.9 daily) than lower earners. Kelly and Moen (2020) supported the view that long hours reduce effectiveness, though Kwon et al. (2023) found that intrinsic motivation can enhance productivity and prosocial behavior. Ng et al. (2006) recognized both the negative and positive effects of workaholism.

ATUS for 2022 found full-time workers averaged 8.3 work hours daily, with 4.2 to 7.5 hours spent on leisure or sport, depending on age. The most time-consuming free time activity was watching television (2.8 hours) (U.S. Bureau of Labor Statistics, 2023).

A significant age-related difference was observed in time spent reading, with those aged 75+ reading more than younger groups who favored video games. ATUS categorized sleep and sports as personal care and, as McDowell-Larsen et al. (2002) noted, regular exercise supports work performance. Amornsiripanitch et al. (2023) found Ivy League athletes earned 3.4 percent more than non-athletes in similar industries. Based on data from the U.S. Bureau of Labor Statistics (2023), sleep and work patterns show a slight increase, as Figure 3 indicates.

Figure 3

U.S. Development of Sleep and Work Duration



Sleep deprivation impairs judgment, increasing the chance of poor decision-making (Krause et al., 2017), while the amount of sleep can fluctuate with economic cycles; for example, people tend to sleep more during downturns (Cardon et al., 2018). Good sleep quality improves mental health and work engagement (Schleupner & Kühnel, 2021), aligning with Watson et al. (2015), who recommend 7–9 hours a night. Despite this, Crain et al. (2017) observed societal undervaluing of sleep. Gingerich et al. (2017) found peak productivity at eight hours of sleep, while Daghlas et al. (2021) linked earlier bedtimes with reduced depression risk.

Kaplan et al. (2012) stressed the importance of leadership characteristics. McKinsey (2023) reported that CEOs control 45 percent of performance, though only eight percent of businesses improve from average to top tier in a decade. Bertrand and Schoar (2003) linked managerial behavior with long-term viability, while Papadopoulos (2019) noted that 96 percent of S&P 500 CEOs are required to hold company stock, aligning remuneration with performance.

Roth (2021) and Smith et al. (2022) showed wealthier individuals invest more in diverse, high-yield assets. Kim and Koo (2018) observed that founder-CEOs often accept lower pay owing to an emotional attachment. Indeed, financial literacy is critical for sound decisions and debt control (Lusardi, 2019), and wealthy entrepreneurs are less risk-averse (Fossen et al., 2023).

Smith et al. (2022) linked elite wealth to diverse income sources; entrepreneurial activity surged in 2022–2023, driven by wealth goals (Hill et al., 2023). Hay and Beaverstock (2016) found that most high-net-worth individuals were entrepreneurs. Sinnewe and Nicholson (2023) created a financial habits framework integrating theories by Ajzen and Fishbein (2004) and Gudmunson and Danes (2011), emphasizing subjective literacy's role in investing. Limited knowledge was a key barrier to equity investment, echoing findings from Kendzia and Borrero (2022) and Van Rooij et al. (2011).

Figure 4

Interplay of Work-Sleep Hours among U.S. Adults in 2022

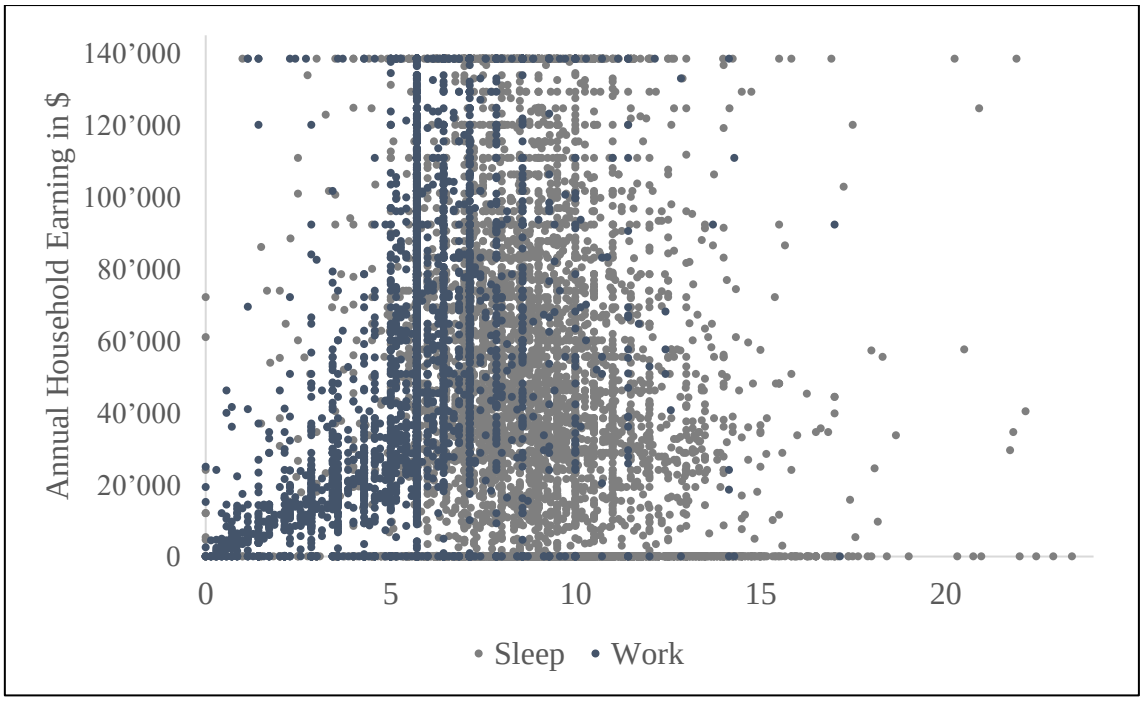


Figure 4 shows, based on data from the U.S. Bureau of Labor Statistics (2023), that U.S. full- and part-time workers in 2022 averaged 7–8 hours of sleep and 6–7 hours of work daily. Taoda et al. (2008) statistically confirmed a negative correlation between sleep and work. Similarly, Litwiller et al. (2017) found a slightly negative correlation in their meta-analysis, reinforcing this inverse relationship.

Methodology

This study investigated two CEO groups: 22 S&P 500 CEOs (based on the top 175 companies by market cap as of April 2024) and 89 non-S&P 500 U.S. CEOs. Habit data (working, sleeping, exercising) were collected from interviews and a structured online survey (Qualtrics) between April and May 2024. The S&P 500 index represents the largest U.S. firms by market cap (S&P Dow Jones Indices, 2024) and serves as a benchmark for economic health (Ball & French, 2021).

Primary and secondary data were analyzed using R (v4.3.3), SPSS, and JASP. Following Gay et al. (2012), quantitative methods grounded findings in measurable evidence. The ATUS framework was adopted for consistency in activity measurement. Compensation data were sourced from SEC proxy filings and company 10-K reports (Annual Meetings and Proxy Requirements, 2017), with net worth from Forbes (Peterson-Withorn, 2024). ROA data were collected from Morningstar.

The statistical analysis applied Pearson's correlation (Gignac & Szodorai, 2016) and a multiple regression model to explore how daily habits predict financial success. Control variables included CEO tenure, annual remuneration, ROA, and net worth – like the approach used by Kim and Koo (2018). The regression model is:

$$Base\ Salary = \beta + \beta 1\ [Work\ hours, Sleep\ hours, Exercise\ minutes] + \beta 2\ [CEO\ Tenure, Compensation, ROA, Net\ Worth] + \varepsilon$$

This model assessed whether executive habits significantly influenced financial outcomes, aligning with methodologies from Bandiera et al. (2017), Mintzberg (1971), and O'Connell and Cramer (2010).

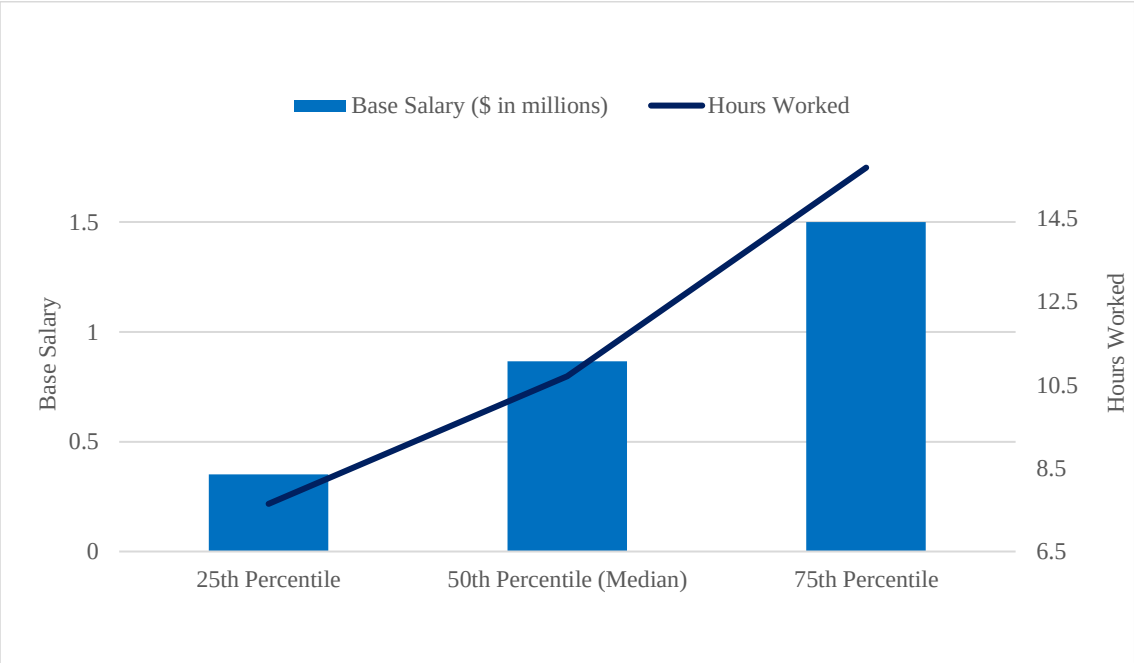
Findings

The 22 S&P 500 CEOs observed for this article worked an average of 11.5 hours daily, slept 6.8 hours a night, and exercised for 48 minutes. Notable habits included reading and spending time with the family. Virtually all the observed CEOs were males, with only one woman in our sample. Only two of the observed CEOs were *external appointments*, while most had held another position in the company before becoming CEO. Sleep was the habit most discussed during the research period (17), followed by exercise routines (12) and working hours (10).

The highest salary was paid to a CEO in the financial sector, where the highest remuneration packages have been observed to mirror the technology sector. Work hours varied sharply, from 6.43 to 18 hours daily. Figure 5 shows that Q1 CEOs worked 7.6–10.7 hours, with the median at 10.7 hours and Q3 close to 16 hours. Earnings rose with longer hours: Q1 CEOs earned under $300,000, while those in the top 25 percent worked 47 percent more than the median and 105 percent more than Q1. Top earners received 73 percent more than the median and 328 percent more than Q1, often in the tech and finance sectors. Founders, however, led the largest companies by market cap.

Figure 5

Quartile Analysis of CEO Salaries and Workload Distribution

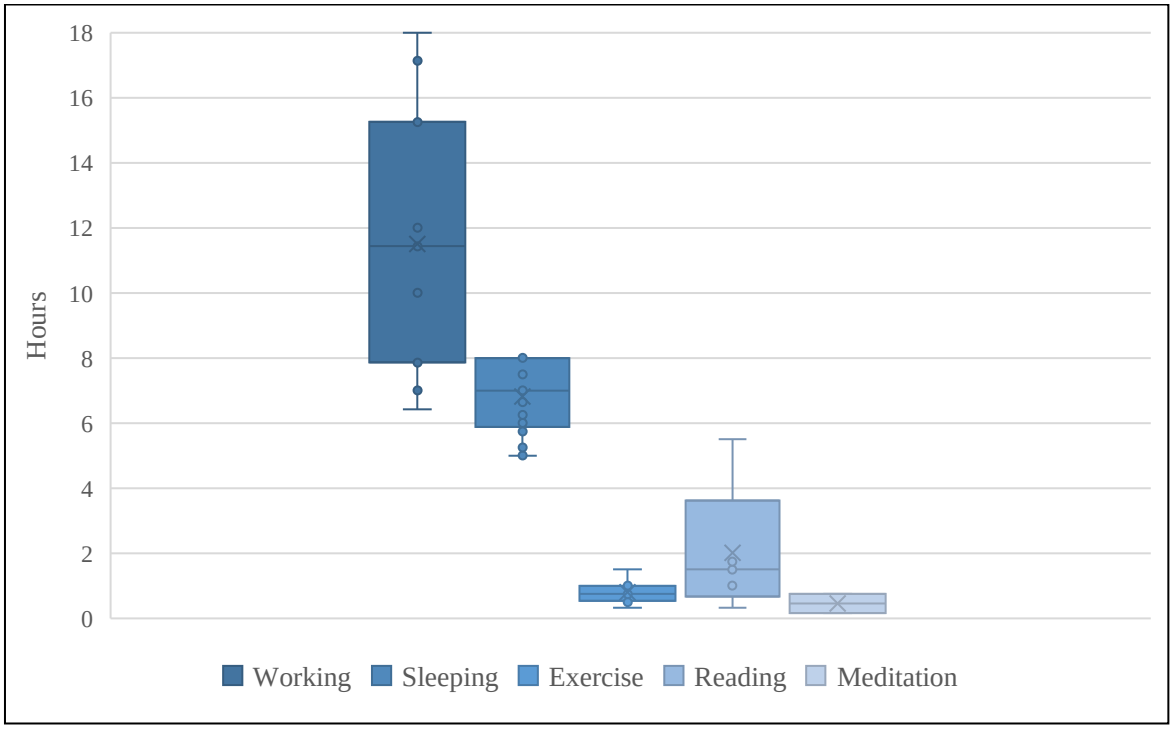


Note. CEOs reporting $0 or $1 in base salary were excluded from the salary distribution analysis.

Figure 6 shows hourly variations in CEO work habits. Daily work hours ranged widely, with a median of 10. The top quartile worked 17.14 to 18 hours, especially in sectors such as automobiles and finance, where transformation demanded more time. Two CEOs reduced their hours after the company went public. In terms of remuneration, 13.6 percent (n = 3) earned $0 or $1. Two S&P 500 CEOs were notable outliers. The most significant variation in hours appeared in the bottom quartile, while two founders worked moderate hours. The top quartile had both the longest hours and the highest pay.

Figure 6

Habit Patterns of S&P 500 CEOs



Twelve S&P 500 CEOs reported exercising daily (on average, for 48 minutes), typically between 0.5 and 0.8 hours. Only two exercised for under 20 or over 90 minutes; most preferred morning cardio, followed by weights, combat sports, or yoga. CEOs exercising around 0.75 hours daily tended to earn more, with those working out for 30 minutes earning substantial remuneration. Interestingly, those exercising more than one hour reported lower average salaries ($25.4 million) compared to their peers exercising less ($33.26 million), suggesting no clear positive income effect from higher physical activity. Tech and communication CEOs exercised moderately, while financial sector CEOs exercised less but earned more. Three CEOs also meditated daily for 10–45 minutes.

Reading – mostly the latest news – was also a common trait. Half of the CEOs read between 20 minutes and 5.5 hours daily, with 75 percent favoring the morning. The *New York Times* and *Wall Street Journal* were the most cited publications. CEOs in the study averaged 6.9 hours of sleep, with none sleeping more than eight hours. Those sleeping 6–7.5 hours earned moderate salaries, while less than six hours correlated with high variations in pay. The top earners generally slept more, earning as much as $48.5 million.

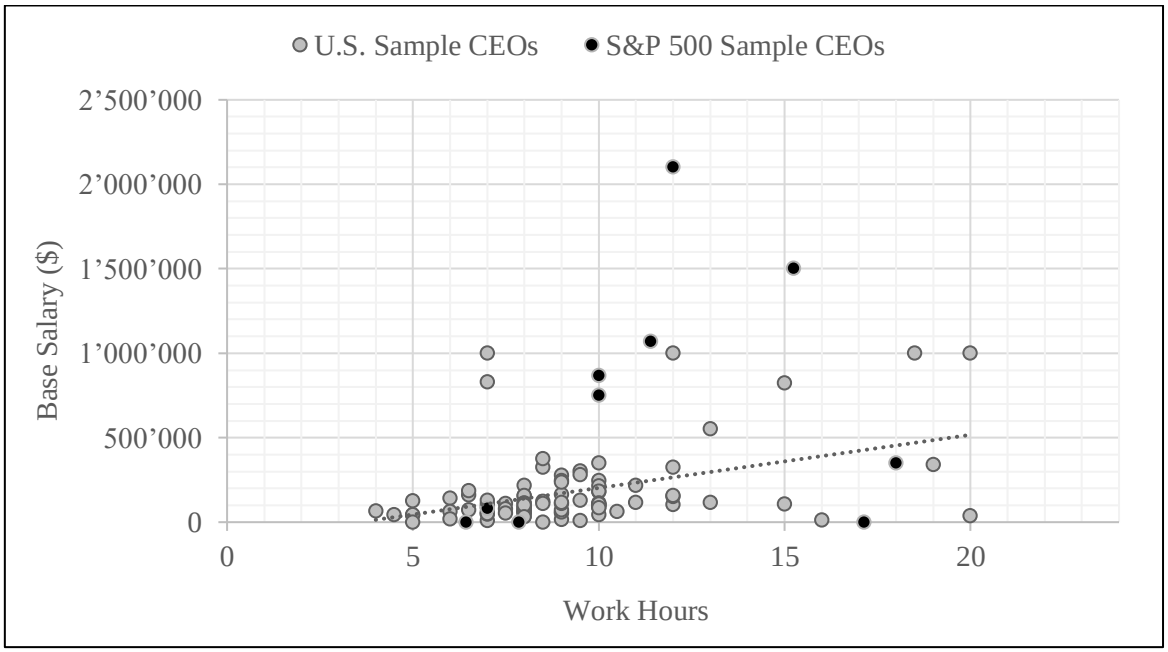
Tech CEOs averaged 6.65–8 hours of sleep, while financial and energy sector CEOs slept less. The average wake-up time among 13 CEOs was 5.56 am, with outliers at 3.45 am and 9.15 am. Demographic data showed that CEOs averaged 62 years of age and 16 years of tenure. Annual remuneration varied widely – from $1.2 million to $120 million – reflecting high variability even among senior executives. Over 95 percent (n = 21) of the CEOs were male, and the wealthiest CEO had a net worth of $200 billion.

The average ROA was 10.33 percent, with a high variability (SD = 7.50), indicating differing company profitability. The surveyed CEOs were younger than their S&P 500 peers, and physical activity levels were similar, with S&P 500 CEOs averaging seven minutes more. Sleep duration differed by 10.8 minutes, while working hours showed a larger gap – S&P 500 CEOs worked 2 hours and 17 minutes longer on average.

Figure 7 illustrates a clustering of 7–10 working hours, while strong outliers working up to 20 hours a day were found in both CEO groups. However, CEOs of the S&P 500 were closer to the median.

Figure 7

Annual Salary and Hours Worked Among CEO Groups



The investigation shows a strong correlation between base salary (the dependent variable) and annual remuneration and between salary and net worth. Base salary was moderately correlated with daily working hours, suggesting that longer hours are linked to higher salaries.

A one-hour increase in work was associated with more annual pay. While length of service showed a slight positive relationship with salary, it was not statistically significant, indicating remuneration may come from other sources, such as stock packages. Weak and insignificant correlations were found for sleep, exercise, net worth, and ROA. CEOs with longer tenures tended to work more hours and earned more despite being older. However, tenure had little impact on exercise or sleep, and high earners generally worked longer hours. Exercise did not relate significantly to earnings or sleep but showed a weak link with work hours, suggesting that CEOs who worked more exercised slightly more.

ROA demonstrated a negative relationship with CEO remuneration, suggesting that executives receiving higher packages tended to achieve lower economic efficiency at the company level in maximizing profits from the company's assets. Having fewer financial resources decreased the strategic investment to allocate efficient assets to increase the ROA.

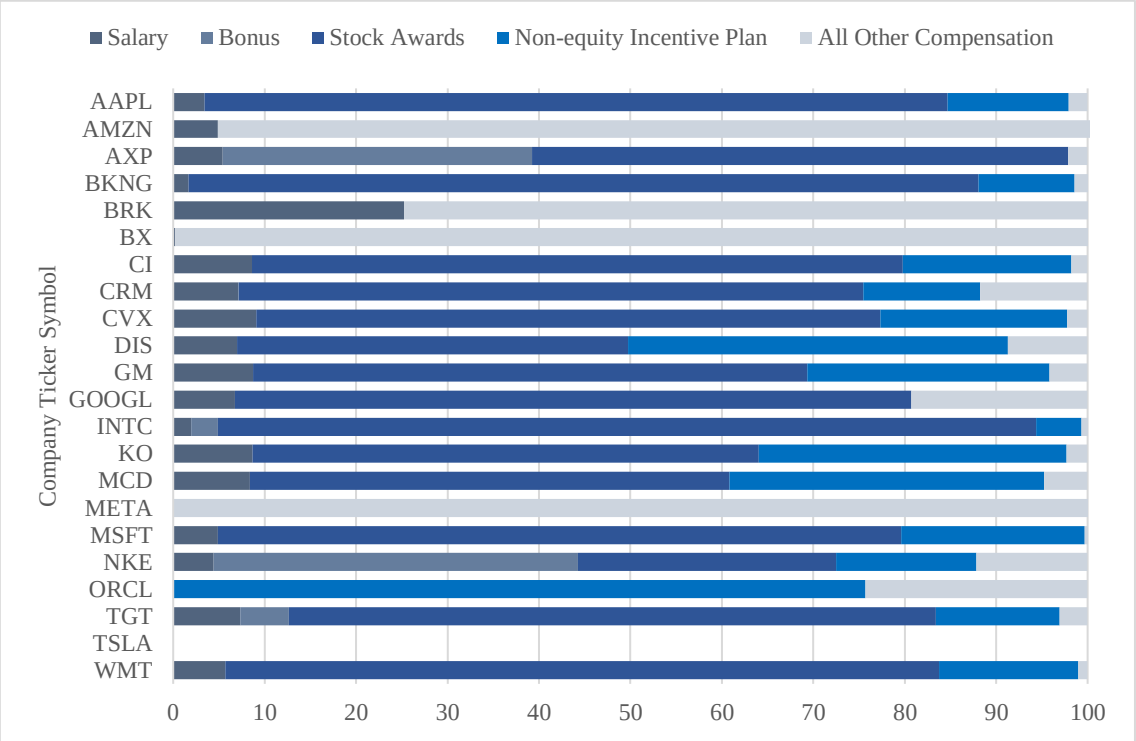
Sleep duration was significantly negatively related to hours worked, so CEOs working longer took less sleep. Moreover, sleep hours had no meaningful association or linkage with other variables. High net worths showed moderate positive linkage to tenure, implying that working resilience over many years aligned with the individual's net worth. Nevertheless, this amount of wealth showed no implications for habits or other variables.

The model indicated a statistically significant positive relationship between CEO tenure and annual salary, with salary increasing by 0.010 units per year of tenure. CEO remuneration was also a strong predictor, with a high t-value of 6.727. Notably, greater CEO wealth – most likely from equity incentives – was linked to lower salaries. ROA positively correlated with salary, suggesting that financially healthy companies pay their CEOs more.

Figure 8 shows that CEO remuneration was mostly equity-based, with a base salary of only 5.88 percent of total pay and shares accounting for 48 percent. Distinct compensation structures and strategies were observed among executives.

Figure 8

Three-Year Remuneration Average Breakdown by CEOs in % (2021–2023)



Note: Stock options have not been included in this data. All other remuneration includes performance plans and cash-related incentives. The CEO of TSLA did not declare any remuneration.

Non-equity incentives were common, though not tied to share growth; 77 percent of CEOs reported $0 in bonuses, which averaged just 2.7 percent of total remuneration. Founder-CEOs often had lower base salaries but held significant equity. Several, including those earning below the median of $1.46 million, had founded their companies. A notable outlier was Blackstone's CEO, whose average pay over three years amounted to $177 million, mainly from carried interest and performance-based investment returns.

Discussion

The regression model revealed a strong relationship between CEO habits and annual salary (adjusted $R^2 = 0.685$), with no multicollinearity issues. Work habits dominated CEO routines, accounting for 67 percent of the impact on salary, followed by sleep (30%) and physical activity (3%). While sleep was not statistically linked to pay, it was the most consistently reported habit, aligning with research that recommends around seven hours for optimal productivity.

The study highlights how senior executives structure their routines around professional demands. Time management emerged as a central theme, with longer hours reflecting output and commitment, especially among long-serving CEOs. Contrary to findings that overwork reduces productivity, these leaders maintain performance over time, most likely because of refined daily routines and intrinsic motivation.

Interestingly, some founding CEOs reported minimal base salaries, instead relying on equity compensation, reflecting entrepreneurial values and a focus on long-term company success. This aligns with literature suggesting such leaders are motivated more by impact than income. In general, the study confirms that work effort – rather than exercise or sleep – drives executive remuneration, although sleep remains a critical component of sustainable performance.

Conclusion

This study offers a nuanced understanding of the relationship between the daily habits of S&P 500 CEOs and their financial rewards. By combining quantitative analysis with comparative insights from a broader CEO cohort, the findings reinforce a key insight that work intensity – measured by hours worked – is significantly linked to higher base salaries among senior executives.

While exercise and sleep habits appear less predictive of pay, their consistent documentation by CEOs underscores their perceived importance in sustaining performance and decision-making under high pressure. These outcomes advance the literature by quantifying behavioral dimensions previously relegated to anecdotal or qualitative inference.

Despite its empirical contributions, the study has several limitations. First, the sample size for S&P 500 CEOs is relatively small (n = 22), limiting the generalizability of the results and raising concerns regarding selection bias and representativeness. Moreover, self-reported data, particularly on sleep and exercise, may be subject to recall bias or social desirability effects.

Our cross-sectional design also restricts causal inferences; while longer work hours correlate with higher remuneration, the directionality of this relationship remains open to interpretation. Higher pay may incentivize longer hours (or vice versa); alternatively, both may be shaped by other variables such as corporate culture or boardroom expectations.

The narrow focus on observable, time-bound habits may also overlook critical yet intangible factors such as cognitive resilience, stress tolerance, and decision quality – traits arguably central to executive effectiveness. Additionally, this study does not explore with any intensity the interplay between compensation structure (e.g., equity-based vs. salary) and personal investment in corporate performance, which could mediate the habit-compensation relationship. Sector-specific demands are acknowledged but not systematically analyzed despite apparent differences in routine and reward patterns between, for example, CEOs in the tech and finance sectors.

Future research should address these limitations by expanding the sample, incorporating longitudinal data, and adopting mixed-method designs that blend behavioral observation with psychometric and biometric tools. Exploring the qualitative dimensions of leadership cognition, time use in collaborative vs. solitary tasks, and digital surveillance data (e.g., calendar analytics) could deepen insights into the efficiency and effectiveness of CEO behavior. In addition, examining gender, generational, and cultural differences in executive routines would provide a richer picture of the leadership-performance nexus in diverse organizational ecosystems.

In a broader context, these findings contribute to the ongoing debate on executive pay, performance accountability, and the culture of overwork. As public scrutiny intensifies around corporate leadership, transparency in time use and alignment with corporate values become increasingly relevant.

Note: Parts of this manuscript have been reworded and enhanced for readability using AI-assisted tools (e.g., ChatGPT.com). The authors have reviewed and approved the final content to ensure accuracy and compliance with ethical standards.

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