Work time and market integration in the original affluent society

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Does integration into commercial markets lead people to work longer hours? Does this mean that people in more subsistence-oriented societies work less compared to those in more market-integrated societies? Despite their venerable status in both anthropology and economic history, these questions have been difficult to address due to a dearth of appropriate data. Here, we tackle the issue by combining high-quality time allocation datasets from 8 small-scale populations around the world (45,019 observations of 863 adults) with similar aggregate data from 14 industrialized (Organisation for Economic Co-operation and Development) countries. Both within and across societies, we find evidence of a positive correlation between work time and market engagement for men, although not for women. Shifting to fully commercial labor is associated with an increase in men's work from around 45 h per week to 55 h, on average; women's work remains at nearly 55 h per week across the spectrum. These results inform us about the socioeconomic determinants of time allocation across a wider range of human societies.

time allocation | labor | market integration | subsistence

In 1966, the anthropologist Marshall Sahlins proclaimed hunter-gatherers to be the "original affluent society." He argued that hunter-gatherers enjoyed abundant leisure because they were unburdened by the presence of commercial markets, which induce people to spend more time working in the pursuit of material goods (1, 2). This striking narrative contradicted older canonical views that people in less socioeconomically complex societies toiled endlessly just to survive (3, 4). However, Sahlins' argument was grounded in only a small amount of empirical data, and quickly came under fire for various methodological reasons, including the difficulty of measuring work and play across societies (5–7). The question of how much time people spend working has thus remained the topic of great interest and ongoing debate (8).

Meanwhile, economic historians have also been considering the links between commercial markets and work time. Voth (9–11), for example, has suggested that a market transition stimulated a rise in work hours across 18th century England. The theory of the "Industrious Revolution" posits that this rise in work energized the expansion of commercial markets and the availability of goods, inducing people to work even more, creating a feedback cycle that culminated in the Industrial Revolution (12, 13). However, the historical data supporting such claims also face challenging methodological limitations, such as nonrepresentative sampling of the populace. As Hatcher (14) laments, "it may never prove possible to measure with any pretence of accuracy the total amount of labor supplied in seventeenth- and eighteenth-century England."

We provide evidence on whether the commercial nature of work is associated with total time spent working, using a unique cross-cultural dataset on time allocation in small-scale societies, constructed by representative random sampling of each population (collected as part of the University of California, Los Angeles [UCLA] Time Allocation Project). This dataset spans several small non-Western societies around the world, each of which was studied over the course of 1 y to 2 y between 1972 and 1987. Each observation links an individual to an activity, enabling us to create statistical composites of people's time use. We include the 8 populations in which people were sampled randomly (using spot checks) and representatively (inclusive of all people aged 15+ y or a representative sample thereof across the year). These 8 groups, listed in Table 1 (with data gathering details in *SI Appendix*, Table S1), collectively encompass numerous modes of production and exchange; they are in the early to intermediate stages of integration into commercial markets, and their members participate in varying levels of trade and commercial activity.

Time allocation observations were made by the method of instantaneous sampling (aka "spot checks"; ref. 15): At random times over the collection period, the researcher visited a random individual or group and recorded the activity the subject was engaging in at the moment they were seen. Because this technique mitigates sampling bias, it has been considered a gold standard for measuring time allocation (16). This process yielded 45,019 observations of 863 adults across the 8 populations. Definitions of activities were standardized by the researchers to ensure comparability of data across societies. The standardized taxonomy of activities consists of 10 broad categories: commercial, eating, food production, housework, individual, manufacture, food preparation, social, away from community

Significance

Social scientists have long debated whether commercial markets lead people to spend more time working. However, this issue has remained contentious due to the difficulty of measuring time allocation in less commercial, more subsistence-oriented societies. Here we use a high-quality dataset on time expenditure from 8 small-scale populations around the world to assess the relationship between work hours and market integration. Consistent with influential theories from anthropology and economic history, the evidence suggests that greater market integration is associated with more total time spent working by men. This increase in men's work time closes the gender gap with women, whose work is not linked to market integration. Incorporating data from industrialized countries reveals these patterns across societies as well.

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Data deposition: The data and code used for analysis are available at https://github.com/r-bhui/time-allocation.

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Table 1. List of small-scale societies

Society	Nation	Mode of subsistence	Distance from nearest town (km)	Sample group size	Number of observations
Kipsigis of Abosi	Kenya	Pastoralism	45	362	17,452
Mekranoti in Southern Pará	Brazil	Foraging–horticulture	650	142	3,059
Madurese of Gedang-Gedang	Indonesia	Agriculture	19	99	4,878
Machiguenga of Camaná	Peru	Foraging–horticulture	120	109	1,778
Machiguenga of Shimaa	Peru	Foraging–horticulture	80	53	1,739
Efe of Ituri Forest	Zaire	Foraging	70	43	5,334
Ye'kwana of Toki	Venezuela	Horticulture	110	32	10,211
Yukpa of Yurmutu	Venezuela	Horticulture	80	23	568

unobserved, and other. These are broken down further into 62 specific subcategories (*SI Appendix*, Table S2).

Do people who participate in markets spend more time working? We conducted 2 analyses to address this central question. First, within the small-scale societies, we assessed whether the proportion of work time that is spent on commercial activity is associated with greater total work time on an individual level. This is intended to determine whether market participants tend to work more, holding societal factors constant. Second, by incorporating time allocation data from large modern countries compiled by the Organisation for Economic Co-operation and Development (OECD), we assessed whether the commercial proportion of work time is associated with greater aggregate work time across a wide spectrum of societies. This serves as a coarse way of contrasting the small-scale societies with modern highly market-integrated countries. Time spent on commercial activity is a classic measure of market participation that correlates strongly with several other metrics (17, 18). It should therefore provide a useful representation of the market-oriented nature of work. Although our data are not well suited for disentangling various causal mechanisms, they can nonetheless provide valuable associative evidence that constrains the set of reasonable possibilities.

The amount of time spent by an individual on a given activity can be computed by multiplying the observation period by the fraction of observations in which they were engaged in that activity. From this calculation, we obtain data points each representing one individual. We enter these into a regression predicting the amount of time people spent working (in hours per week) from the proportion of this work time corresponding to commercial activities. The regression coefficient indicates the magnitude of association between total work time and its commercial nature. Our definition of work includes all activities under the broad categories of commercial, food production, housework, manufacture, and food preparation (as well as their corresponding subcategories when people were away from community unobserved), and the subcategories of childcare and individual and social information acquisition. *SI Appendix*, Table S2 provides an exact breakdown of activities.

To assess the robustness of our results, we consider 2 definitions of commercial work. Both definitions include all activities under the broad commercial category (as well as its corresponding subcategory under away from community unobserved). Specifically, this covers the following: 1) cash cropping, raising livestock for sale; 2) collecting wild/natural products for ultimate sale, including mining; 3) manufacturing articles for sale; 4) shopping, buying, selling, bartering; 5) wage labor, selling labor to others, service for money; and 6) other undifferentiated commercial activities.

On top of this, one of the definitions we analyzed includes the acquisition of information and education (individually or socially) under commercial activity, while the other definition excludes it. This ambiguity arises because the information people acquire is often commercially relevant. For instance, people typically learn about crop prices from others, and even formal schooling, where it exists in these societies, includes economic matters, alongside the transmission of other skills and information implicitly necessary for market participation. Since the exact nature of learning was not recorded (and may have ambiguous classification regardless), we compute and report the results under both assumptions.

To allow the data to speak clearly without overstating or understating the information they contain, we fit a Bayesian multilevel model. This analysis allows each society to have its own regression coefficients, assuming that these coefficients are all drawn from the same distribution (the parameters of which are estimated). Multilevel models strike a balance between complete pooling of the data, in which intergroup differences are neglected, and no pooling, in which each group is analyzed independently. Both of these alternatives inappropriately represent variation across groups, whereas the partial pooling that results from multilevel analysis summarizes the data accounting properly for group-level variation (19). This yields a single model reflecting all available information, which is especially beneficial when the number of groups or individuals is small. Bayesian inference permits us to describe the statistical implications of the model in rich detail, precisely quantifying the degree of uncertainty we should hold about its parameters, rather than imposing arbitrary significance thresholds.

Thus, we fit a model of the form

$$w_{is} = \alpha_s + \beta_s c_{is} + \gamma_s X_{is} + \varepsilon_{is};\ \varepsilon_{is} \sim \mathcal{N}(0, \sigma^2),$$
$$[\alpha_s, \beta_s, \gamma_s] \sim \mathcal{N}([\alpha, \beta, \gamma], \Sigma),$$

where w_{is} is the total weekly work time of individual i in society s, c_{is} is the fraction of this work time that was spent on commercial activities, X_{is} is individual (mean-centered) age as a control variable, α_s, β_s, and γ_s are the corresponding regression coefficients for society s assumed to be drawn from a multivariate normal distribution with mean $[\alpha, \beta, \gamma]$, σ^2 reflects individual-level variation, and Σ reflects systematic unexplained variation between societies. Note that c_{is} is the commercial fraction of work time rather than total time, and so will not mechanically exhibit a relationship merely due to adding-up constraints. To reduce noise, the regressions include only the 801 individuals who were observed at least 10 times, comprising 99.2% of the total observations (with slightly more volatile results if all are included; *SI Appendix*, Table S4). We split analyses of men and women for clarity, due to their distinct patterns of time allocation (20), but similar results are obtained when combining them into a single model (*SI Appendix*, Table S5).

The scatter plots in Fig. 1 depict the relationship in each society between total work time and the commercial proportion of work (using the definition that includes information acquisition). As can be seen from the plots, which include fitted society-level regression lines from the multilevel model, some societies have enough data to allow stronger conclusions on their own, while others do not. Thus the credible intervals are, for example,

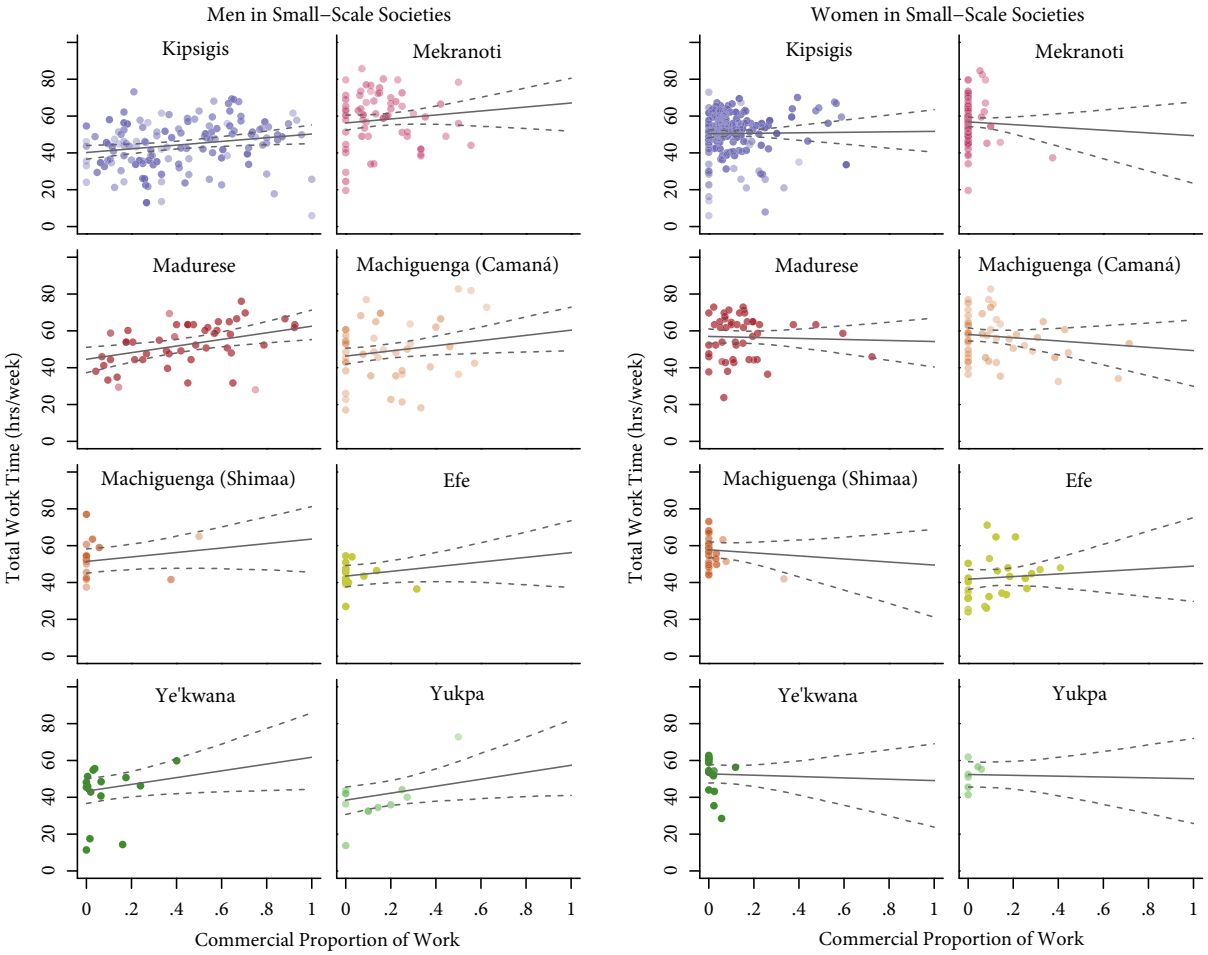

Fig. 1. Association between commerce and total work for men and women in small-scale societies. Society-level regression lines from a Bayesian multilevel model are shown with 95% credible intervals. Dot transparency reflects number of observations used to construct each data point. Information acquisition counted as commercial work.

narrower for the Madurese and wider for the Ye'kwana. Moreover, data are sparse nearer the commercial end of the spectrum in many societies, limiting the strength of the overall conclusions that can be drawn. However, even the sparse data points contribute their own piece of evidence to the model estimation which jointly incorporates all data accounting for individual- and society-level variation.

The numerical results are reported in Table 2. According to the estimated coefficients for men, those whose labor is entirely noncommercial spend around 45 to 47 total hours per week on work. Shifting entirely to commercial labor is associated with an increase in work time of 10 h to 15 h per week (the latter when information acquisition is considered commercial, and the former when it is not). The posterior probability of a positive association between total work time and the commercial proportion of work, $P(\beta > 0)$, is 99.5% when commercial activity includes information acquisition or 90.8% when it does not. We note that the former assumption provides a better fit according to the leave-one-out information criterion and one-standard-error rule ($\text{LOOIC}_{\text{EC}} - \text{LOOIC}_{\text{ENC}} = -12.28$ with SE 6.98). Given that age is controlled for, the results do not seem to be driven by variation over the life cycle. (Model comparison favors this linear age specification over excluding age or adding a quadratic term; *SI Appendix*, Tables S6 and S7.) The results are similar if unknown activities are counted under each definition of work or commercial activity (*SI Appendix*, Table S8).

When the data for women are analyzed separately, these same relationships do not emerge. Instead, shifting to completely commercial work is associated with a modest 0 h to 3 h decrease in weekly work, although these figures must be circumscribed due to the paucity of sampling along the commercial axis. The posterior probability of a negative association for women, $P(\beta < 0)$, is 66.2% when information acquisition is considered commercial or 53.0% when it is not. This pattern of neutral or weakly negative associations continues to appear when considering alternative specifications based on age or characterizations of work (*SI Appendix*, Tables S6, S7, and S9).

Notably, women work more than men. Women whose labor is completely noncommercial work about 53 h per week, which is markedly higher than men (with $P(\delta_{EC} > 0) = 98.7\%$ and $P(\delta_{ENC} > 0) = 99.6\%$ according to analyses including both genders in *SI Appendix*, Table S5). This disparity is often found when all types of work are taken into account (e.g., ref. 7). In our data, market engagement closes this gender gap.

A caveat is that time use was unobserved at night. If commercial activities took place primarily during the middle of the day while other kinds of work might have occurred in the night or early morning, the latter could be underreported, biasing upward our estimate of the association between commercial and total work. We cannot decisively rule out this possibility; however, any impact is likely small. Almost every anthropologist explicitly reported that people engaged in very little productive activity

Table 2. Bayesian multilevel regression models predicting total work time (in hours per week) from the proportion of work that is commercial for men and women in 8 small-scale populations

	Men		Women	
Variable	Work [EC]	Work [ENC]	Work [EC]	Work [ENC]
Intercept (α)	45.36 (3.20)	46.85 (3.05)	53.25 (2.66)	53.38 (2.55)
Commercial proportion of work (β)	14.45 (5.69)	9.70 (8.31)	−2.98 (7.42)	−0.12 (8.65)
Age (in decades; γ)	0.91 (1.17)	0.05 (1.46)	0.25 (0.91)	0.30 (0.99)
Commercial proportion of work × age	−3.76 (1.93)	0.51 (2.13)	−0.93 (3.56)	0.66 (4.56)
Individual-level variability (σ)	12.67 (0.49)	12.83 (0.50)	11.30 (0.40)	11.31 (0.38)
Society-level variability ($\Sigma_{\alpha}^{1/2}$)	7.91 (2.82)	7.75 (2.80)	6.83 (2.32)	6.79 (2.35)
Society-level variability ($\Sigma_{\beta}^{1/2}$)	8.08 (5.80)	13.57 (8.06)	9.21 (6.90)	7.84 (6.57)
Society-level variability ($\Sigma_{\gamma}^{1/2}$)	2.27 (1.30)	3.02 (1.47)	1.87 (0.98)	2.09 (0.97)
Bayesian R^2	0.257	0.236	0.157	0.157
LOOIC	2828.18	2840.46	3447.69	3449.16
$P(\beta > 0)$	0.995	0.908	0.338	0.470
No. of individuals	355	355	446	446

EC (ENC), information acquisition/education included in commercial (noncommercial) work; LOOIC, leave-one-out information criterion. Standard errors are in parentheses.

outside the sampled daytime hours, and one researcher informally estimated that at least 95% of nondaytime hours were spent sleeping. This figure implies that up to 3.5 to 4 nonrecorded hours per week could be attributed to work. Our regression results in Table 2 for men indicate a difference in work hours of about 3 to 4 times that amount from one end of the commercial spectrum to the other. Thus, conservatively allowing for nonreporting may weaken some of the results but does not seem to eliminate them.

Our second analysis draws on nationally representative time use surveys for 14 OECD countries (21, 22). These were constructed by the diary method, in which each subject precisely recorded (in their own words) the activities they were engaged in during each 5- to 10-min interval of a previous 24-h period. These descriptions were then categorized by researchers according to standard activity codes for each country. *SI Appendix*, Figs. S4 and S5 depict aggregate time use decomposed into commercial/noncommercial work and nonwork. While there are several possible differences in the properties of the small-scale and OECD datasets, we have sought to maximize their comparability on key dimensions. First, we use only the OECD countries with full-year data. Second, we include populations with a common age range; the OECD data are mostly restricted to people aged 15 y to 64 y, so we exclude any remaining exceptions, and exclude the relatively few members of small-scale societies who fell outside this range (corresponding to 3.0% of observations; *SI Appendix*, Fig. S1). Third, we define work and commercial activity using the most similar subcategories to the small-scale data (*Materials and Methods*). Finally, we note that, although the OECD compilation was derived from time diaries, this method is considered to provide reliable data on routine behaviors (15). Studies simultaneously using multiple methods indicate that instantaneous sampling and time diaries yield convergent numbers (23–26).

To parallel the analytical approach used in the small-scale societies, we ran standard Bayesian linear regressions predicting work time from the commercial proportion of work aggregated by group. We understand that there are many other features of societies which may be correlated with the independent variable, and simply intend this analysis as one way of describing the broad connection between economic complexity and work time spanning small- and large-scale societies, recognizing that this constrains the conclusions that can be drawn. There is also substantial heterogeneity in the data, as some small-scale societies work about as long as large-scale societies, while others work less. It is notable that the Efe people—the closest group in our sample to a full-time foraging society—work the second least overall. The high degree of cross-society variation, seen elsewhere

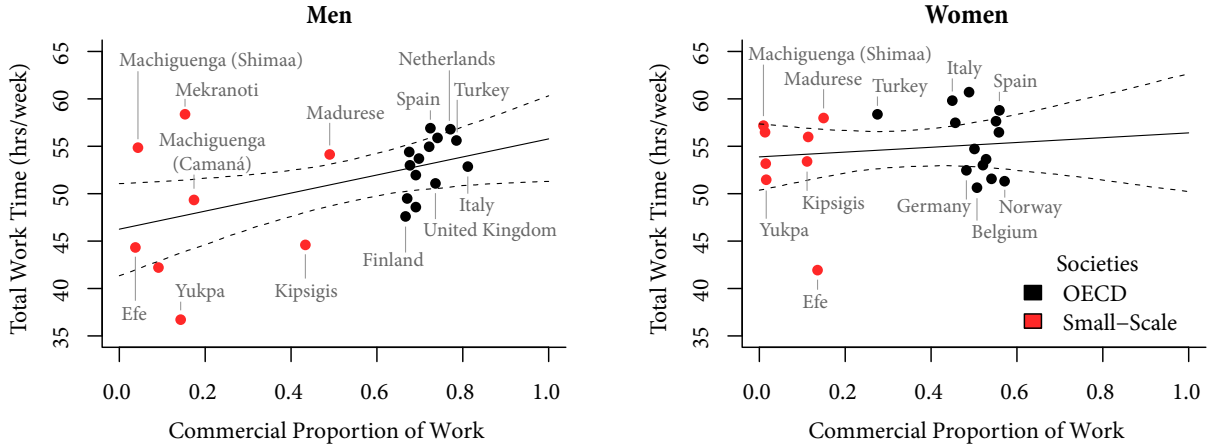

Fig. 2. Association between commerce and total work for men and women across OECD and small-scale societies. Bayesian regression lines are shown with 95% credible intervals. Information acquisition counted as commercial work.

Table 3. Bayesian regressions predicting total work time (in hours per week) from the proportion of work that is commercial for men and women across 22 populations from small-scale and OECD societies

	Men		Women	
Variable	Work [EC]	Work [ENC]	Work [EC]	Work [ENC]
Intercept	46.26 (2.45)	46.36 (2.35)	53.88 (1.80)	53.97 (1.76)
Commercial proportion of work	9.52 (4.12)	10.91 (4.62)	2.53 (4.43)	2.72 (5.44)
Variability	5.16 (0.87)	5.10 (0.87)	4.44 (0.75)	4.47 (0.77)
Bayesian R^2	0.234	0.245	0.058	0.056
LOOIC	137.87	137.48	131.18	130.98
$P(\beta > 0)$	0.984	0.988	0.730	0.696

EC (ENC), information acquisition/education included in commercial (noncommercial) work. Standard errors are in parentheses.

too (7), may have contributed to the mixed empirical findings in the literature, and is itself an interesting pattern deserving of future study.

As in the small-scale societies, despite idiosyncratic variation, the results in Fig. 2 and Table 3 indicate a strong positive association for men and a weak association for women. In societies where work is entirely noncommercial, men work for about 46 h per week while women work for 54 h (the latter is higher with $P(\delta_{EC} > 0) = 99.5\%$ and $P(\delta_{ENC} > 0) = 99.7\%$ in pooled regressions; *SI Appendix*, Table S10). The shift to fully commercial work is associated with roughly 10 to 11 more work hours per week for men ($P(\beta_{EC} > 0) = 98.4\%$ and $P(\beta_{ENC} > 0) = 98.8\%$); robust positive associations remain when using alternative specifications of work, although the point estimates drop to about 6 h to 8 h (*SI Appendix*, Table S11). The same shift is associated with only a modest 3 h per week increase for women ($P(\beta_{EC} > 0) = 73.0\%$ and $P(\beta_{ENC} > 0) = 69.6\%$), and this does not survive in any alternative specifications (*SI Appendix*, Table S12).

Finally, extra insight may be gleaned by considering more physical definitions of work based on energy expended. To study this, we incorporated data from the Compendium of Physical Activities (27) under the supposition that these numbers can be applied across disparate groups. The resulting analyses suggest that, although highly commercial people spend more time working, they do not necessarily spend more energy (*SI Appendix*, Figs. S6 and S7 and Tables S15–S19). Men in subsistence-oriented societies may even spend the most energy of all, consistent with past research (28). Commercial labor might thus offer some relief from the physical demands of subsistence work.

In sum, market participation does not seem to be accompanied by less work time in our data. To the contrary, men who engage in primarily commercial labor tend to work more both within and across societies—about 500 h more per year (roughly 2,900 h compared to 2,400 h). No such patterns are discernible for women, who work as much as highly commercial men across the board. This gender gap in subsistence-oriented societies accords with previous findings (7). However, even the least commercial people generally work harder than Sahlins claimed, notwithstanding significant variation across societies. Furthermore, these results may not necessarily translate into physical activity, as subsistence-oriented men seem to expend at least as much energy as anyone else, if not more.

For comparison, historical data suggest that, over the course of the Industrial Revolution, annual work time among men in London grew by about 1,000 h, from roughly 2,300 h to 3,300 h (9–11). Although there are obvious differences between 18th century English farmers and 20th century Amazonian horticulturalists, the latter can nonetheless help us glimpse a world in the midst of market integration. Our data provide evidence of a positive relationship between work and its commercial nature at low levels of economic complexity, which has been hypothesized to play an important role in major societal transitions. To the extent that push or pull factors are shared by people in these groups (29), we contribute prima facie evidence supporting such theories.

We remain agnostic about the causal processes involved, since our data do not allow us to clearly distinguish between various mechanisms. Social scientists have proposed several possible reasons for a positive relationship between work time and commercial activity. For example, standard economic analyses predict a rational increase in work when its prospective benefits are greater (the "substitution effect"), as when markets make available more or better products (30). Sahlins himself postulated that underlying preferences might change, arguing that markets kindle the intrinsic desire to consume (1). Consistent with this idea, economic experiments with hunter-gatherers reveal a link between market integration and the endowment effect (an excess reluctance to part with one's goods; ref. 31) as well as patience (required to defer gratification in favor of work; ref. 32). Extra commercial work might also stem from suboptimal decision-making, due to inexperience with markets (33). These mechanisms and others are not mutually exclusive, and could reinforce or interfere with each other (and this picture is further complicated by intrahousehold dynamics which we only begin to explore—*SI Appendix*, Tables S13 and S14 and Fig. S4; ref. 34). To fully grasp the motives behind time use requires richer documentation of what is gained and lost by following different pursuits, including the rewards, skills, and knowledge that can be acquired through various activities (e.g., ref. 35). Note that we do not deny markets could enhance economic efficiency and reduce the need to work; this force acts against the observed association, pointing to the presence of opposing mechanisms such as those described above.

We also cannot directly assess how different activities affect well-being (cf. ref. 29) or the quality of subjective experience (cf. ref. 36), although the distinctive patterns of energy expenditure suggest a multidimensional story. Ecological conditions may induce temporal and spatial variation in work (37, 38), with limited seasonality occurring in our data (*SI Appendix*, Fig. S5). Labor may be harsh and dangerous, and even some "leisure" might be better described as "enforced idleness," as when a torrential downpour prevents hunting for subsistence (8). Indeed, although people may work less, life expectancy in these societies appears to be markedly shorter than in large modern countries, seen both in the present data (*SI Appendix*, Fig. S1) and elsewhere (39).

Broadly, our results can be situated in a wider perspective on how labor changes over the course of societal transition. While findings such as ours link work to greater complexity among simpler societies (40, 41), work hours in modern industrialized nations have persistently declined over the last century (42), and people in richer countries appear to work less (10). It is thus thought that work time follows an inverted U shape with respect to socioeconomic development (43). Our analyses indicate that a gap remains in work hours between subsistence-oriented and industrialized societies, although only time will tell whether the future holds a reunion with the work–life balance of our foraging forbearers.

Materials and Methods

Small-Scale Society Data. The small-scale society data comprise part of the monograph series *Cross-Cultural Studies in Time Allocation* (44), a product of the UCLA Time Allocation Project. These data were collected by a group of anthropologists between 1972 and 1987 in 14 small-scale societies around the world. Out of the 14 societies, we omit 5 due to either nonspot-check collection method or nonrepresentative sampling; for instance, data were

gathered in several of these omitted societies for the purposes of child-care studies, and hence observations were only of children and adults while they were interacting with children. One more society is omitted due to an excessively high proportion of activities (35%) coded as unknown. As recommended in the monograph, we exclude the small fraction of incidentally collected data (in the Mekranoti, and the Machiguenga of Camaná) from people who did not live in the focal community or were not part of the designated random sample. Moreover, age data for the Mekranoti was in 5-y bins, so we imputed the age of each individual as the midpoint of their bin.

In the included societies, random individuals or groups of age 15 y and above were selected for observation at random times in the day using tables of random numbers. The anthropologist located the relevant individual and recorded the activity in which they were engaging at the moment they were spotted by the anthropologist, to avoid changes in behavior caused by the researcher's presence. If contact could not be made with an individual at the time of observation, the observer attempted to ascertain their activities by asking third parties and later verifying this with the focal individual. Activities in each society were originally recorded using a brief coding scheme determined by the anthropologist attached to that society, in addition to a more detailed free-form text description. These activities were later standardized into a single scheme collectively agreed upon by all of the anthropologists. The standard taxonomy of activities consists of 10 broad categories broken down further into 62 specific subcategories which can be found in *SI Appendix*, Table S2.

Certain activity imputations were made in some societies. First, sometimes Mekranoti went out on extended treks away from the village, accompanied by the anthropologist attached to their society. To refine the observations corresponding to randomly selected people who remained in the village while the anthropologist was away, we resampled the more detailed data from when the anthropologist was present and assigned the resulting observations to the missing data. For a given such data point, the resampling distribution was determined by an iteratively expanding window which first consisted of the observations gathered within 3 h of the event time on any day within 2 mo of the event date. If no such observations were found, the window iteratively expanded by 3 h and 1 mo. Neither resampling variation nor different window sizes substantively alter the results. Second, Ye'kwana (both in the observed village and other nonobserved ones) sometimes visited other Ye'kwana villages. Thus, at the time of observation, some Ye'kwana from the observed village were in other villages and some Ye'kwana from other villages were in the observed village. Presuming the visiting Ye'kwana were engaged in similar activities, we resampled those visiting the observed village and assigned the resulting observations to the Ye'kwana from the observed village visiting elsewhere, using the same expanding window procedure. Finally, observations made of Efe moving camps or traveling between camps and villages were originally classified as "other." To avoid understating the amount of work, we recoded these as noncommercial labor.

OECD Data. The OECD data come from the *OECD Time Use Database* (22). See ref. 21 for details of each country's survey. Out of the 26 OECD countries with available data, we excluded 3 countries because they spanned ages other than 15 y to 64 y, and 9 countries because their data collection did not span the year. This left 14 countries in the sample: Belgium (2005), Estonia (2009–2010), Finland (2009–2010), Germany (2001–2002), Italy (2008–2009), The Netherlands (2005–2006), New Zealand (2009–2010), Norway (2010), Poland (2003–2004), Slovenia (2000–2001), Spain (2009–2010), Turkey (2006), the United Kingdom (2005), and the United States (2014). Activities in the OECD data were standardized (by the OECD) into 5 broad categories broken down into 25 total subcategories. These can be found in *SI Appendix*, Table S3, along with the definition of work in terms of the subcategories.

Statistical Analysis. The analysis was implemented using the brms package in R 3.5.1 with default weakly informative priors (45).

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